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Taiwanese Nurses' Empowerment and Participation in Decision Making

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Taiwanese Nurses' Empowerment and Participation in Decision Making

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Dedication

To the Lord

To my parents

To my brother

To my friends in ACCCF

Acknowledgements

First of all, I would like to give thanks to the Lord. He has granted me strength and wisdom to go through all the difficult times in my doctoral study. My thanks also go to the participants in this study. Their participation has made this study meaningful.

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Taiwanese Nurses' Empowerment and Participation in Decision Making

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The purposes of this cross-sectional and internet mixed methods study were: (a) to explore the level of structural empowerment (SEP), psychological empowerment (PE), participation in decision making (PDM), their relationships, and their predictors among Taiwanese nurses, and (b) to explore the influence of contextual factors (culture and gender) on the nurses' perception on their work environment and PDM based on the feminist perspective and Laschinger's expanded empowerment model. This study included an Internet questionnaire survey (quantitative) and a Web-based online forum (qualitative). A convenient sample of 163 Taiwanese registered nurses (a) who are currently working full time in health care institutions for at least 3 months, (b) can read and write Chinese on the computer, and (c) have access to the Internet was recruited and completed the internet survey. Among them, 20 completed the online forum discussion topics.

The findings of the internet survey indicated that participants had moderate level of SEP, high-moderate level of PE and low level of PDM. Personal characteristics, such as age, education, and work experience, did not significantly correlate to Taiwanese nurses' empowerment. However, the work structures, such as workload, types of hospitals, and work units, were significantly related to Taiwanese nurses' empowerment and PDM. PE was a mediator between SEP and PDM, which indicated that with increased access to workplace empowerment structures, nurses perceived better personal empowerment, which in turn increased nurses' PDM.

In the online forum, two themes were discovered: (a) foot-binding unto nursing and (b) not open up. The first theme indicated that certain stereotypes regarding gender roles in Taiwanese society were restraints to the growth of nursing. Due to the stereotypes, nurses were located in the lower social status and developed powerless behaviors. The second theme indicated that communication among nurses was not sufficient, which might stem from the influence of Confucianism, collectivism, and power distance.

The findings in this study extend our understanding of the empowerment and PDM among Taiwanese nurses within the context of gender and culture.

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Chapter 1: Introduction

In a health care system, nurses are in the frontline of direct patient care. They spend the most time with patients and fulfill their needs. Hence, nurses are the face of hospital (Setoyama, 2000) and the key persons to make significant contributions to healthcare restructure and patient satisfaction. According to the Institute of Medicine (2004), the quality of patient care is directly affected by the degree to which hospital nurses are empowered in participation in decision making regarding their patients' care plan and are central to the organizational decision making. In order to provide better patient care, nurses should be empowered to decide how they practice and what kind of working situation is acceptable for fulfilling their professional responsibilities.

In addition, the current health care system highly emphasizes the cost-effectiveness of patient care and organizational productivity (Chandler, 1991). It is not adequate to request changes only at the individual level. The change should start at the organizational level. Hospitals should build an environment which provides empowering structures for their employees. Nurses as the first-line care givers can no longer be isolated from power (Chandler, 1991) and should be empowered to involve themselves more in decision making. To date no study in Taiwan has examined the relationship between nurses' empowerment and participation in decision making (PDM).

The work environment of nurses in Taiwan is different from that in western society. In the past, Chinese believed that caring for sick people was the work of servants, and females were mainly responsible for that (Liu, 1998). Since almost all nurses in Taiwan are females, gender definitely plays an important role in shaping nurses' perception of their work role. Hence, Taiwanese nurses' empowerment should not be isolated from the context of Chinese culture and gender. In Taiwan, no study has

examined Taiwanese nurses' empowerment from the perspectives of gender and Chinese culture. There is a need for further investigation. In this chapter, the background of problems in Taiwanese nurses' empowerment, the purpose, and significance of study are presented. The definition of major concepts, assumptions, and the limitations of this study are also included.

Background

In Taiwan, the cost of national health care has increased about 10 %, but the insurance income has only increased about 6% (Chou, 1999). In order to control the increased cost of national health care, the bureau of National Health Insurance has implemented the policy of global budget, which has an enormous impact on the health care system. Hospitals try to decrease the number of nurses as a fiscal solution. According to the National Union of Nurses' Associations (Lin & Pan, 2004), the nurse-patient ratio on day shifts has increased to 1:8-12. On the night shift, the situation gets worse to 1:15-20. The turnover rate of nurses is high at about 33%, while that of new nursing graduates is even higher at about 50-60% (Lin & Pan, 2004), mainly because new nurses have difficulty adapting to the heavy workload. With the dramatic increase of workload, nurses are disempowered in their work which in turn might decrease their job satisfaction and influence the quality of patient care.

In 2005, the Bureau of National Health Insurance in Taiwan has adopted the second generation of national health plan to balance the cost and income and to increase the quality of health care. However, the Department of Health in Taiwan is mainly controlled by physicians (Lee, 2002). When nursing representatives urge that the unfair reimbursement fee be changed in health insurance, they face a lot of pressure from physicians. The working conditions of nurses are still neglected. According to a national

internet survey (Yang, 2004), about 80% of clinical nurses wished to change their careers, and among them about 60% reported that they would not become a nurse if they could start their career all over again. In Taiwan nursing has become a less attractive profession to females, compared to other occupations (Liu, 1998).

People in the Taiwanese society believe that today women's situation is almost equal to men. Women have equal opportunity to access education and work. In Taiwan, according to the Bureau of Statistics (Rou, Lai, Tsai, & Wang, 2003), there are more females (50.5%) than males in higher education. However, the rate of females' participation in labor, although is increasing gradually, is still lower than that of Japan, Korea and United States. Today females are more financially independent. However, the average salary among women is only 70% of that among men. At home, women are mainly responsible for the majority of housework, even though they might also work full time outside. It is obvious that the tradition of "men working outside and women working inside of family", which emphasizes the role differences between men and women (Leu, 1990), is still popular in current Taiwanese society.

In the current health care system, it can be found that nurses who are closer to direct patient care tend to have less power within the hospital settings (Letvak, 2001), and they usually do not have opportunities for participation in clinical decision-making (Coombs, 2003). Although nurses could hold higher positions in hospitals, still nurses are far away from equality (Letvak, 2001). In contrast, men usually have higher social status and more access to the opportunity and power in an organization (Kanter, 1993). In the past, some psychological theories claimed that it was female's natural characteristics, such as lower aggressiveness and their favoring relationships over task accomplishment, that restrain women from leadership positions (Ibarra, 2004). However, the gender effect

should be understood from a social structural perspective, not just from a personal predispositions perspective. The reason why women do not hold higher positions in an organization is because they have less access to power and opportunity. Taiwanese society still maintains a hierarchical structure and produces particular employee behavior. According to a feminist perspective, researchers should not only emphasize the women-centered life experiences but also pay attention to the context in which they are encountered (Hall & Stevens, 1991; Im & Chee, 2001). To date, no studies in Taiwan have focused on these factors.

Furthermore, studies have shown that Taiwanese nurses had a moderate empowerment level and their actual work empowerment perception was significantly lower than their expectation (Huang, Lin, Hsu, Chen, & Huang, 2003; Wang & Lu, 1998). The findings also showed that nurses had the lowest score on participation in decision making. Researchers pointed out that the nursing leaders tended to use authority and might only consult several members' opinions for decision making. The opportunity for nurses to participate in decision making is limited. As such, frontline nurses might think decision making is the manager's responsibility, not theirs (Mok & Au-Yeung, 2002). Participation can be seen as the highest level of empowerment. Nurses' level of participation in decision making (PDM) can be used as an important indicator of empowerment. In western health care system, it has been found that the area where nurses prefer to be involved in decision-making is more related to the context of nursing practice, such as nursing unit operation (Blegen et al., 1993). Yet, in Taiwan nurses' PDM is still not well studied. The extent to which nurses prefer to be or are actually involved in decision making is still not clear.

Purpose

Nurses' empowerment in Taiwan was under the influence of Chinese culture, gender, and power structures in the health care system. Different cultures might shape employee's perceptions differently, especially in the eastern culture and a patriarchal society. It was needed to study Taiwanese nurses' empowerment based on the context of Chinese culture and gender. Furthermore, an individual perspective on empowerment might overlook the influences of structures of the work environment. On the other hand, an organizational perspective might overlook the power of individuals (Chiles & Zorn, 1995). Integration of these two perspectives in empowerment study was important. In this study, the level of structural empowerment (SEP), psychological empowerment (PE), Participation in decision making (PDM), their relationships, and their predictors among Taiwanese nurses were explored, and the influence of contextual factors (culture and gender) was also explored through mixed methods (please see Figure 1 and the section on definitions for major concepts).

Specific Aims and Research Questions

Aim 1: To explore the level of SEP, PE, and PDM among Taiwanese nurses.

Research question 1. What is the level of Taiwanese nurses' structural and psychological empowerment?

Research question 2. What is the Taiwanese nurses' actual and preferred level of PDM?

Hypothesis 1. Taiwanese nurses' preferred level of PDM is higher than their actual level of PDM.

Aim 2: To explore the relationship between variables, including background factors, power factors, structural empowerment (SEP), psychological empowerment (PE) and PDM.

Research question 3. What is the relationship between background factors and SEP; power factors and SEP; background factors and PE; background factors and PDM; SEP and PE; SEP and PDM; and PE and PDM?

Aim 3: To explore the factors which influence Taiwanese nurses' SEP, PE and PDM.

Research question 4. Which factors can predict Taiwanese nurses' SEP?

Research question 5. Which factors can predict Taiwanese nurses' PE?

Research question 6. Which factors can predict Taiwanese nurses' actual level of PDM?

Research question 7. Does PE mediate the relationship between SEP and PDM?

Aim 4: To explore Taiwanese nurses' perception of their work conditions based on their gender role and culture.

Research question 8. How do Taiwanese nurses perceive their work environment within the context of gender, culture and power?

Research question 9. What is Taiwanese nurses' experience in PDM?

Significance

In the United States, the awareness of the importance of patient safety has brought forth some insights into the structure of the health care system. It is believed that nurses should be empowered to participate in decision making to increase the quality of care and to ensure patient safety (Institute of Medicine, 2004). However, in the Taiwanese health care system, according to Yeh (1997), the physician is the most dominant profession. The patient's rights and nurses' working conditions have been neglected for a long time (Yeh,

1997). Nurses are not expected to be independent and their work activities are not respected (Yeh, 1997). Studies in Taiwan related to empowerment have never examined the influence of Chinese culture and gender on empowerment. Although one study compared the structural empowerment level between male and female nurses, its result of no gender difference was not correctly inferred due to the imbalanced sample size in male and female groups. The influence of gender on Taiwanese nurses' empowerment is still unknown.

Studies have shown that PE mediated the relationship between structural empowerment and empowering behavior (Laschinger, Finegan, Shamian, & Wilk, 2001b). No study in Taiwan has examined this mediating effect of PE. It is important to know whether PE fully or partially mediates the relationship between SEP and PDM. The result might provide an alternative explanation for Taiwanese nurses' moderate level of empowerment, given that their work condition is getting worse.

Furthermore, studies have shown that nurses' PDM is highly related to patient safety (Anderson & McDaniel, 1999). No study in Taiwan has examined nurses' PDM. PDM can only be found in studies of nurses' job satisfaction. The relationship between empowerment and PDM is also unknown. Most studies in Taiwan were done by examining the relationship between empowerment and organizational commitment. Although commitment is important for nurses to devote their energy to their work, the actual level of involvement is still unknown. In addition, the influence of Chinese culture on nurses' PDM cannot be ignored, since a culture determines how people behave (Chang & Holt, 1991). How nurses are involved in PDM, and how they would communicate with each other during the process of PDM should be understood. Findings on the extent and the preferred areas of participation in decision making might shed light

on the innovation of nursing administration in Taiwan, which in turn can further enhance nurses' control over their practice for better patient care.

Since empowerment is a complex phenomenon, one method alone cannot capture the whole picture. Mixed methods were used. The quantitative method provides the common ground to understand the overall Taiwanese nurses' empowerment and PDM, and to explore the mediating effect of PE. The findings from the qualitative method can complement the quantitative findings. The gender influence on empowerment is hard to be captured in a quantitative method, due to the scarce number of male nurses in Taiwan. The qualitative method can be used to look at female nurses' perceptions of their work and to understand their experience of being a female and a nurse in their work environment. The result can provide deep insights into female nurses' work role and how culture might have shaped their perceptions. The findings can also help nurses to raise their awareness of existing oppression in their working environment, which might be due to the stereotype of female's role in a patriarchal society. Through such awareness, staff nurses may start to question the accepted norms in their work environment and challenge the status quo. Nurses can be united to strive for better work conditions and to provide better care to their patients. Besides, based on the culture and gender perspectives, nurses' empowerment might have a different outlook and might provide additional directions for empowerment theory.

In addition, this study was the first study to apply internet methods (web based survey and online forum) to Taiwan hospital nurses. The experience of these new methods might provide some practical directions for future internet research within this population.

Definitions of Major Concepts

There are several major concepts in this study. The definition of each concept is presented below.

Empowerment: empowerment is a socialization process, and a dynamic phenomenon. The level of empowerment is shaped by social opportunities and personal characteristics, including gender, class and ethnicity (Foster-Fishman & Salem, 1998).

Structural empowerment: Structural empowerment is an individual's perception of empowering structures in their work environment, including the access to opportunity, information, support and resources (Laschinger, 1996b). According to Kanter (1977), opportunity is an individual's expectation and prospects of mobility and growth. Opportunity comes with the exposure, visibility and connections associated with the formal job position. Information is the knowledge required for job-related work. Support is the feedback and guidance from superiors, peers and subordinates. Resources refer to the materials, money and time needed for achieving organizational goals.

Psychological empowerment: psychological empowerment is the psychological state of an employee perceiving four dimensions of meaning, competence, self-determination and impact in their work role (Spreitzer, 1995). The level of employees' psychological empowerment is influenced by structural empowerment.

Participation in decision making (PDM). PDM is defined as the level of nurses' decisional involvement in their work unit, which can be seen as the pattern of distribution of authority for decisions and activities that govern nursing practice policy and the practice environment (Havens & Vasey, 2005).

Power factors: Power is defined as the ability to get things done and to mobilize resources (Kanter, 1993). There are two sources of power: formal power and informal

power. Formal power is the power that comes with the formal position in an organization. Informal power is the power that comes from the social network, including the connection with peers, supervisors and sponsors.

Background factors: background factors refer to nurses' individual background data, which include age, nursing position (nursing ladder), work unit (med/surgical, or intensive care unit…etc.), work load, education, working experience, type of hospital (medical center, teaching, regional or local hospitals). More details regarding the differentiation of nursing ladders and types of hospitals are presented in Chapter 3.

Contextual factor: contextual factors refer to the macro level factors that shape an individual's behavior in the society, including culture and gender. According to Wolf (2007), culture can be defined as "a total way of life of a group and the learned behavior that is socially constructed and transmitted" (p.294). In other words, culture can be seen as the accepted norms, values, beliefs and rules that are shared by a group of people. Gender is socially constructed and cultured, and is detached from the real biological sex (Allen, 1996). Gender and culture together shape individuals' behaviors.

Taiwanese nurses: Nurses in Taiwan who work full time in hospitals for at least 3 months (not in probation period).

Assumptions

Several assumptions were made in this study. First, individuals can be empowered by providing them necessary opportunities and resources. Second, employees are under the influence of their work environment. Their behavior is the product of the interaction between individuals and their environment (Kanter, 1977). Third, individuals' perceptions are not isolated from their social environments. Their perceptions are shaped by a specific culture and their gender. Fourth, empowerment is a continuous variable

(Spreitzer, 1995). It is a dynamic and on-going process. Therefore, an individual does not perceive empowerment on an all-or-nothing basis, but on a more-or-less basis. Fifth, nurses have the ability to participate in their work-related decision making process. However, the level of their involvement might vary.

Limitations

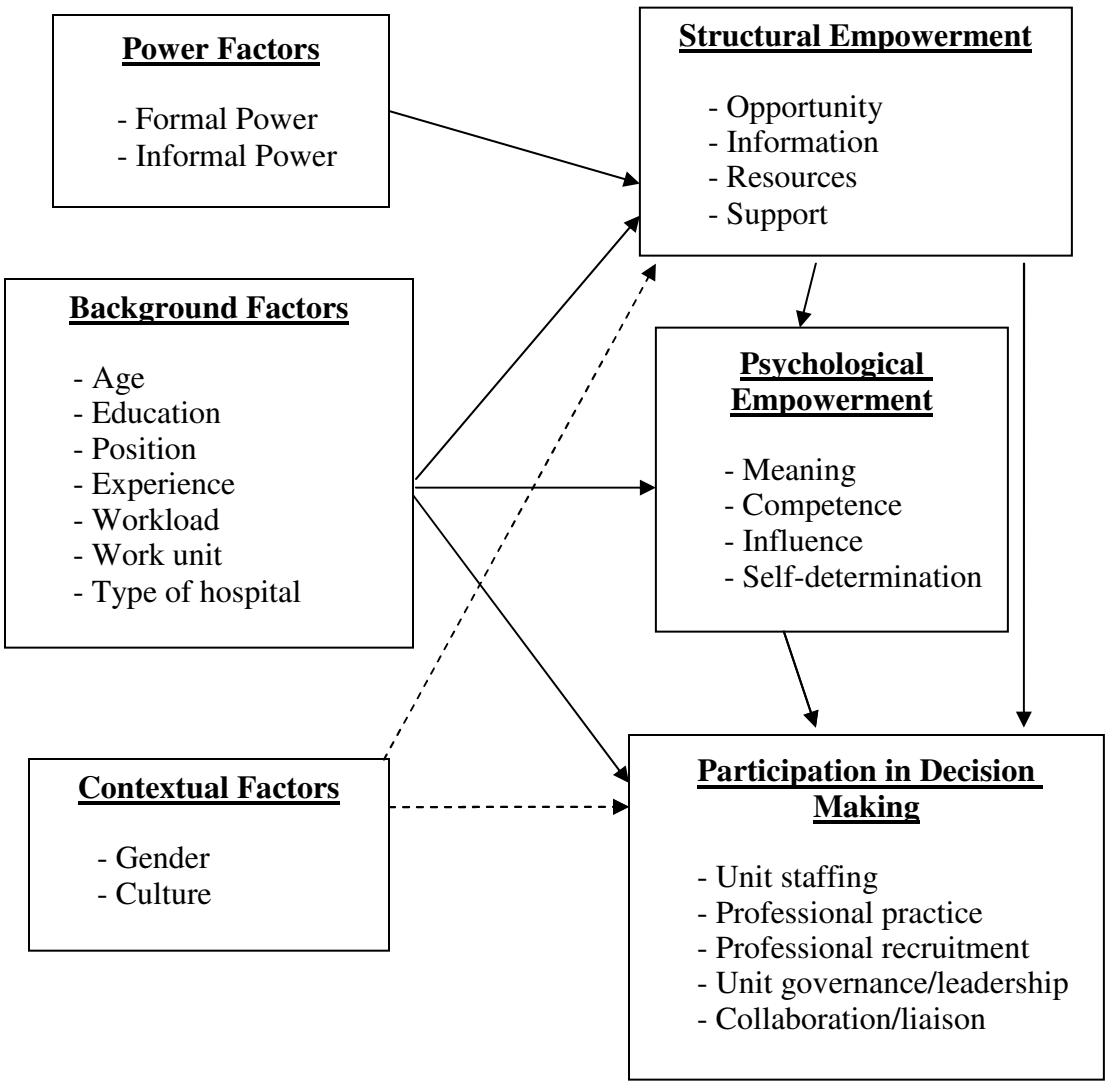
In this study, there were several limitations. First, the design was cross sectional correlation design, which meant that the study only took place at one point in time (Polit & Beck, 2004) and only looked at the relationships between variables. According to Trochim (2001), although two variables were highly correlated, the possibility of the third variable causing the effect or the change of outcome variable still existed. Therefore, the conclusion for causal effect could not be made.

Second, the sampling method was convenient sampling. Although it did not mean that the sample from convenient sampling was definitely less representative of the population, it would often be hard for researchers to know how representative the sample was and to calculate the confidence interval (Trochim, 2001). The finding might not be generalized to all the population of Taiwanese nurses. Therefore, the result obtained from this study should be interpreted with caution.

Third, the data was obtained through self-report measures. The validity and accuracy of data might be an issue (Polit & Beck, 2004). Because the internet survey method assured respondents' anonymity, the bias from social desirability or coercion might be decreased (Kiesler & Sproull, 1986; Nosek, Banaji, & Greewald, 2002). Still, there was no guarantee that participants would respond honestly.

Summary

In this chapter, the background of Taiwanese nurses' work situation was introduced. The possible influences of Chinese culture and gender role on empowerment were also discussed. Then the purpose, research aims and research questions of the study were provided. This study was guided by feminism and Laschinger's model, which was mainly based on Kanter's structural behavior theory. The conceptual framework and relevant literature review are presented in Chapter 2.



—— Explored through the quantitative Internet survey

- - - - - Explored through the qualitative online forum

Figure 1: Conceptual Framework

Chapter 2: Theoretical Background and Review of Literature

This chapter describes the theoretical background of this study and the literature review on Taiwanese nurses' structural empowerment (SEP), psychological empowerment (PE), and participation in decision making (PDM). Feminism and Laschinger's empowerment model were used to theoretically guide this study. Thus, in the theoretical background section, feminism in general is introduced, followed by feminism and empowerment, and Taiwanese nurses' empowerment from a feminist perspective. Then, Laschinger's empowerment model is presented, followed by a literature review on individual and contextual factors, and their relationship with SEP, PE and PDM. Finally, the conceptual framework of this study is developed.

Theoretical Background

As mentioned above, two approaches were used to guide this study: (a) feminism and (b) Laschinger's expanded empowerment model, which incorporate Kanter's structural behavior theory (Kanter, 1977, 1993) and Spreitzer's psychological empowerment theory (Spreitzer, 1995). The section below first discusses the different perspectives and common themes in feminism.

Feminism in General

Feminism has become a popular school of thought for women's study because it values women's experience against the systematic injustice due to gender bias (Chinn & Wheeler, 1985). According to Gary, Sigsby and Campbell (1998), feminism can be seen as an approach to question existing structures and functions in society. Also, feminism can be thought of as a method in nursing to make connections with other nurses and women. The aim of feminism is to help with women's self-actualization, the elimination

of oppression and the advancement of human dignity for all people (Gary et al., 1998). However, feminism is not one single or global perspective. There are many different perspectives in feminism.

Liberal feminists believe that women's oppression stems from a lack of equal civil rights and educational opportunities (Chinn & Wheeler, 1985). Women should work together to urge reform for equal access to resources in society (Campbell & Wasco, 2000). Radical feminists believe that women's oppression stems from the systems of patriarchal social structures (Li, 2006) and sexism is the fundamental problem (Campbell & Wasco, 2000). Marxist feminists believe that women's oppressions stems from the introduction of private property (Tong, 1998). Capitalism has devalued women's domestic work as not real work and led women into the most monotonous jobs with minimum wage (Crotty, 2003). Socialist feminists believe that women's oppression is originated from the interaction of capitalism and the patriarchal system. Therefore, women should fight two wars to be liberated (Tong, 1998). Postmodernism feminists criticize traditional values and thoughts (decenter) (Ku, 2000). They see equality as another form of male dominated thinking and cannot really resolve the issue of women's oppression (Li, 2006). The use of de-structure helps people to appreciate the nothingness, absence, the marginal and the peripheral (Tong, 1998).

Despite the diverse perspectives in feminism, there are some consistent main themes. The assumption in feminism is that women are oppressed in a society of patriarchy, and the dominance of a male worldview has continued to affirm this oppression (McCormick & Bunting, 2002). According to Hall and Stevens (1991), there are three basic principles shared by feminism: (a) a valuing of women and a validation of women's experience, ideas, and needs; (b) a recognition of the existence of ideologic,

structural, and interpersonal conditions that oppress women; and (c) a desire to bring about social change of oppressive constraints through criticisms and political action. The aim of feminism is to end the isolation and divisiveness that exist among women in male-defined systems and help women to value themselves and other women so that feminists can work toward the ending of dehumanizing polarizations (Chinn & Wheeler, 1985).

Feminism and Nurses' Empowerment

In a health care system, nurses have been seen not only as providers of service but also facilitators and resources to patients (Gibson, 1991). Nurses have been expected to empower patients to make their own decisions and to develop proactive healthy behaviors (Ellis-Stoll & Popkess-Vawter, 1998). Gibson (1991) has defined empowerment as a "social process of recognizing, promoting, and enhancing people's abilities to meet their own needs, solve their own problems and mobilize the necessary resources in order to feel in control of their own lives" (p.359). However, in a health care system, nursing is under biomedical domination. Aspects of patient care are mostly constructed and directed by physicians (Jackson, 1997b). Nurses' perspectives on patient care are often not understood or respected by physicians (Sirota, 2007). Besides, the historical-social construction and devaluation of women's work has resulted in the low social status of nursing (Brennan, 2005). This devaluation of nurses' professional worth has caused the feeling of frustration and dissatisfaction among nurses (Sirota, 2007).

The health care system has been operated in a hierarchical way (Stein, 1990). It is the rigid hierarchy that places physicians firmly in charge. The male dominance of the medical profession can be seen as a major obstacle to the implementation of change in the health care setting (Biley & Whale, 1996). The power gap between nurses and physicians is huge. When nurses' empowerment is discussed, the issues of power cannot

be omitted. Based on a feminist perspective, the power in empowerment is "power to", not the "power over" in traditional male models (Rodwell, 1996). According to Hawks (1991), the power in "power to" is similar to effectiveness, which involves capacity and the ability to achieve the desired effects. On the other hand, "power over" is more related to the influence or control of a person or a group to make them obey (Hawks, 1991). Power over can be another source of oppression. However, in a male-dominated society, "power over" has become the major practice of power and the accepted norms. Feminism questions the accepted norms in a patriarchal society, and aims to value women's experience and to increase women' self awareness of their oppression. Through this awareness, the reformation of norms can be achieved.

Taiwan is a patriarchal society. Nurses' work in the male dominated health care setting. Therefore, nurses' work situation is not isolated from the influence of culture and gender. In the next section, Taiwanese nurses' empowerment is reviewed from a feminist perspective in three areas: (a) caring as the nursing image, (b) oppression and the powerlessness, and (c) Taiwan nursing history.

Taiwanese Nurses' Empowerment from a Feminist Perspective

Nursing Image: Caring

The nursing profession has been a predominantly female occupation which has made it impossible to avoid the stereotypes of females from society and history (Gary et al., 1998). Jobs demanding a tolerance for routine and caring have been seen as suitable for women who naturally possess these qualities. In Taiwan, people think nursing work is very repetitive and does not require too much knowledge. All day long what nurses do is just following the doctor's order, giving medications and taking vital signs. Therefore, nurses have been seen as "high class maids" in Taiwanese society. Also, in traditional

Chinese culture, 'caring' is equal to 'serving' (Liu, 1998), such that people with lower social status, usually young females, are expected to do 'serving work'. Therefore, nursing is seen as an extension of women's natural domestic roles and qualities (Littlewood, 2004), which is not highly valued in society. Since nursing is seen as an extension of women's natural domestic roles and qualities (Littlewood, 2004), nursing naturally becomes a "feminine" profession which produces the stereotyped image that nurses should be compliant, patient, uncomplaining, hardworking and self-effacing (Dombeck, 2003; Letvak, 2001).

Since the Nightingale era, nursing has been a profession of "calling". Therefore, caring is the central theme of nursing practice. Nurses have been struggling with the perception that nurses should be recognizably caring, compassionate and self-effacing without considering their own. In addition, nurses, being a majority of females, tend to be concerned about others' feelings and needs first and sacrifice their own needs (Letvak, 2001). In order to derive satisfaction from nursing work and be accepted, nurses could only conform to the expectation by ignoring their discomfort and only focusing on the positive aspects of work (Dombeck, 2003). In Taiwan, Tsai, Huang, and Yeh (2003) studied nurses' organizational citizen behavior. They found out that nurses tend to have the behavior of altruism. Although most nurses are not satisfied with their work conditions, salary, reward and promotion opportunity, they still try to care about and help each other. Also in Taiwan, there is a saying that nurses are like candles, which burn themselves and bring light to others. Nurses are expected to show "selfless dedication" (Daiski, 2004) without asking for rewards. Hence, as paid employees, care work is seen to fix women into the low-pay and low-skill sectors of the economy (Hughes, 2002). However, when men undertake this kind of caring work, there is a pattern of

exceptionalism (Hughes, 2002). Men who enter the caring professions or are employed in predominantly female sectors such as nursing, social work and primary school teaching are more likely to reach the top or occupy the senior positions in these sectors.

Caring can be conceptualized as an ethic in psychology and philosophy (Hughes, 2002). The ethics of care involves neither selfishness nor self-sacrifice but a realization of the connectedness of human beings (Porter, 1998). According to Gilligan (1982), men are not only the primary producers of systems of thoughts but also theories of moral development based on their lived experience and research. The male dominant thoughts and theories suggest that women who fail to live out these normative theories are perceived to be morally under-developed. She further pointed out that for men the moral imperative is to respect the rights of others; for women the moral imperative is to care – to identify and alleviate the troubles that affect themselves and others. In nursing, the moral values are grounded in a moral commitment which is within a relationship and treat the relationship with respect and concern. Moreover, the respect and concern extend from the personal relationship to the interaction with the physical environment and the social and political contexts. It is the interaction among people and their contexts that shapes human health and well-being (Chinn, 1999). However, in the health care system, it is the power that sustains the organizational hierarchies and creates certain positions with authority over nurses. Therefore, unless caring can be empowered, there would be difficulties for nurses to discuss power (Rafael, 1996).

Oppression and Powerlessness

In society, the dominants create the norms for what is valued. Over time these norms become internalized as a part of culture (Roberts, 2000). Women's worth has been devalued and they develop poor self-esteem in the patriarchic society. Nurses, as women,

are held in subordinate positions to other male professions (Daiski, 2004). According to Roberts (1983; 2000), the subordinate groups attempt to imitate the powerful group. They tend to accept the powerful groups' values and disregard their own. Besides, because of their caring-centered perspective, nurses might feel "power" is incongruent with caring and be uncomfortable to discuss power or exert power (Rafael, 1996). Therefore, nurses usually are positioned at the lower end of the disciplinary hierarchy and have little power for decision making and are rarely consulted (Daiski, 2004). Nurses, though as the biggest workforce in health care, have the least opportunity to make their voice heard (Lan, 1997). In Taiwan, nurses seldom fight for their own right unless they could not tolerate the oppression anymore. For example, one nursing strike was held because of work overtime and the lack of respect from the top of hospital administrators (Lan, 1997). The origin of the event was that front line nurses had been working overtime for a long period owing to the shortage of nurses. They desired to have time off for rest. However, the hospital just planned to pay off the accumulated vacation time with a small amount of money, without considering the nurses' needs or consulting them first. Also, the nurse managers only asked the nurses to tolerate and bear the situation without offering help to the front line nurses to make their voices heard or to fight for their rights. Hence, nursing managers just became the affiliate of the power, not the advocates of front line nurses, the powerless.

Within a science-focused environment, nursing has been treated as a form of deviation from the accepted singular biomedical scientific ideal (Brennan, 2005). The work of women has always been invisible in the recorded histories of androcentric western culture because women's work was considered to be non-work (Ginzberg, 1999). Women were excluded from the scientific community for a long time. The forms of

scientific understanding today are to a large degree the product of male practice. In terms of knowledge, it was male medicine that made all the running, establishing positivist science as the only valid form of health care knowledge (Porter, 1998). Nursing has a distinct knowledge which stems from the lived experiences of nurses as women and nurses involved in a caring relationship with their clients (Hagell, 1989). If nursing attempts to validate their knowledge in male medicine, then it has to play by the rules of the game established by male medicine. Nursing theory largely remains in the scientific approaches. However, the main thrust of nursing practice is largely based on the ethic of caring. This incongruence results in an increasing distance between belief and action and leads to confusion, despair and frustration (Hagell, 1989).

Furthermore, Confucianism is highly valued in Chinese culture. Based on Confucianism, people with knowledge should have higher social status and know their moral duty. According to Huang (2005), in Chinese society, physicians are expected to have higher moral standards, and they are rewarded with a higher pay and higher social status with power. However, female nurses are also expected to have higher moral standards, but they do not get a higher pay or higher social status for reward. Society continuously expects females to sacrifice and devote themselves to making contributions to the society without considering the right of female as a human being (Huang, 2005). For example, the Taiwanese medical law requires that intravenous (IV) injection should be carried out by doctors. However, in most hospitals, nurses are requested to perform the techniques of IV injection without any protection by the law. Once there is a medical lawsuit, nurses are held responsible for the mistake. It is obvious that nurses are oppressed in the health care system. Although nurses represent a majority of the health

care providers in the system, very few of them are in a position where they can influence health policy making (Sohier, 1992).

Nursing in Taiwan History

Cornell (1985) traced nursing history back to the root of 'nurturing' which is associated with Hygieie, a feminine symbol. The feminine characteristics have been ignored by the historians of medicine and nursing in favor of the masculine. Webb (1986) addressed how the doctor-nurse relationship prevented nurses from developing a feminist consciousness. The sexism and inequality within the relationship and the cultural norms of the organization which endorse it can result in nurses not seeing that women are oppressed in health care because they are women. In Chinese history, only women with low social economic status took health care related jobs which were seen as lower level occupations (Liu, 1998). These occupations were named as "Yio Pao" (藥婆) who was the woman to sell medications for infertility and abortion, and "Wun Pao" (穩婆) who was the woman to help with baby delivery. These women were seen as women without good female morality because they did not stay at home, but spread the knowledge about birth control, abortion and sex (Liu, 1998). These females were the origin of healers in Chinese history. Overall, in Chinese society the servants or the females in a family are the care providers.

In Taiwan, during the colonial period, the Japanese established a hospital in Taipei in 1895. The medical school was not founded until 1899. Since then, school started training nurses and nurse midwives. At that time, because Taiwan was a patriarchic society, females did not have too much opportunity for education. Therefore, nursing was a good occupation for young girls. Moreover, because of the tradition that there should not be any bodily contact between males and females, nurse midwives were

much more popular in society than male physicians. However, due to the legislation and male physicians' cooperation network, the role of nurse midwives gradually disappeared and was replaced by male physicians (Fu, 2005). Besides, the nursing education level was low at that time. Nurses were submissive to physicians and played the role of assistant to physicians, which might partly be owing to the traditional thinking that males are superior and females are inferior. Hospitals often operated in a hierarchical way that encouraged obedience and dependence in nurses. Although nursing leaders tried to increase the level of nursing education to the higher college level, they faced a lot of hindrances from physicians. For physicians, the lower level education nurses tended to be more submissive and easier to be controlled (Liu, 1998). The first non-army nursing college was not started until 1956.

Taiwanese nursing education was rooted in and developed from Nightingale western nursing, since the old image of female healers was not acceptable in Chinese society (Chang, 1999b). Nursing leaders in Taiwan adopted the western image of nurses. However, the adoption of western culture is not without problem. For example, the reason for western women going into nursing is the "calling" from God (Chang, 1999), which is totally different from that in Taiwan. As mentioned earlier, the reason for Taiwanese nurses to become a nurse is because they can learn the knowledge and skills to take care of their family members, which is more congruent with the concept of filial piety in Chinese culture. Taiwanese nurses tend to value family's needs much more than their own needs. According to Liu (1998), when there is a conflict between family and work, Taiwanese nurses may choose to quit the job and go back to family to serve. Therefore, the nursing profession is not a long term career but a transitional career. Since nurses only work for several years in the clinical area, they usually are not involved too

much in the nursing organization. According to Yeh (1997), the development of nursing mainly relies on the elite of nursing leaders. Nursing organizations do not pay much attention to their grassroots members. Due to the lack of grassroots movement, nursing reform advocated by nursing elites in Taiwan becomes less influential and can obtain little support from the lower levels of the profession.

In Taiwan, the feminist movement started more than 20 years ago. However, feminism has never been adopted in the nursing field. When searching the database in Taiwan National Central Library, no study can be found by using the key words "nursing" and "feminism". It seems that nurses as women often accept the cultural norms and fail to see their own oppression. Even though sometimes nurses acknowledge the huge power distance between physicians and themselves, they are still reluctant to change the order of things (Biley & Whale, 1996).

Laschinger's Empowerment Model

Laschinger's empowerment model was originally developed based on Kanter's structural behavior theory, which focuses on the relationship between empowering structures in the work environment and employee's behaviors. In order to explain more variance of employee's behaviors, Laschinger then expanded the empowerment model (Laschinger et al., 2001b) by incorporating psychological empowerment (PE) into this model. Hence, this model focuses not only on women's experience (individual perceptions-PE) but also on their context (work environment-SEP), which is congruent with the feminist perspective. In the next section, the contents of the structural behavior theory and psychological empowerment theory are presented.

Structural Behavior Theory

In the structural behavior theory, Kanter (1975) acknowledged that the management positions were mainly occupied by males and therefore it was important to examine whether sexual status, class and ethnicity were reflected in the managerial ideologies and organizational models. According to Kanter (1975), the earlier management theories focused more on the masculine ethic of rationality and reason. The male related traits were highly valued, such as the capacity of setting personal emotions aside to accomplishing achievement or the superior cognition for planning and problem solving. Those theories only concerned about the influence of personal characteristics on management without considering the influence of the structural issues in organizations and their consequences for behavior.

According to Kanter (1977, 1993), employees' behaviors and attitudes are shaped by different social/organizational structures. She proposes three structural determinants: (a) power, (b) opportunity, and (c) proportions. These three concepts have the potential to explain a majority of employee's responses to organization. However, in this study, only opportunity and power were studied since females are the majority in nursing.

Power structure. Kanter (1977, 1993) defined power as "the ability to get things done, to mobilized resources, to get and use whatever it is that a person needs for the goals he or she is attempting to meet" (p.166). For Kanter (1977), power was closer to mastery or autonomy. Through generating more autonomy, and more access to resources, people would be empowered and have increased capacity for effective action. If more people were empowered, then they could accomplish more and get more things done. Therefore, the reason for a leader becoming effective was not because they had good relationship with subordinates but the ability to get a group, subordinates or followers as

much as the favorable share of the resource, opportunity and rewards in organization. There are three important lines of power: the access to information, support and resources (Kanter, 1977). According to Laschinger, Sabiston, and Kutszcher (1997), lines of information are related to the formal or informal possession of early information about organizational decisions and policy. Lines of support are associated with the ability to bring in materials, money, rewards or other needed resources. Lines of support are related to having allowance for innovative activities without going through a multilayered approval process.

According to Kanter (1977), there were two different sources of power: (a) formal and (b) informal. In a hierarchical organization, a formal position and the competence within the position provided access to power. Also, through personal performance, people might gain power especially when the job-related performance was extraordinary, highly visible and relevant to the solution to pressing organizational problems. Regarding the informal source of power, it usually came from the informal social network which might be the connections with sponsors (mentors or advocates), peers and subordinates. In this study, these two sources of power were identified as power factors in the conceptual framework and they were regarded as important predictors of SEP.

Opportunity structure. Opportunity represented the potential for advancement (Kanter, 1977, 1993). It could be determined by the promotion rate. According to Kanter (1993), high promotion rate from some certain positions did not come with the career paths automatically but come with the exposure, visibility and connections associated with that position. If an individual had a dramatic increase in opportunity, then his/her aspiration, work commitment and a sense of organizational responsibility could also be raised dramatically. However, for people with low opportunity of advancement, their

involvement in work and in the organization was totally different from those with good opportunity.

In summary, the organizational structures that assist the growth of empowerment are: having access to information, receiving support, having access to resources necessary to do the job, and having the opportunity to learn and grow. Jobs that provide discretion and are central to the organizational purpose help employees to gain access to these empowering structures and are the sources of formal power (Kanter, 1977). On the other hand, employees with strong networks with peers, superiors, and other organizational members are recognized as having informal power with the increased access to empowering structures.

Psychological Empowerment Theory

From the socio-psychological perspective, empowerment is mainly viewed as the result of an employee's perception of her/his personal state or interpersonal interaction (Chiles & Zorn, 1995). According to Thomas and Velthouse (1990), employees' judgments about their work conditions are shaped by their interpretation. In other words, organizational environment can have a powerful influence on cognitions of empowerment (Spreitzer, 1996). Therefore, empowerment is not only at the organizational structure level but also at the individual level (Zimmerman, 1995). Individual's subjective and psychological experiences of empowerment (Seibert, Silver, & Randolph, 2004) should be valued.

According to Spreitzer (1995), there are four cognitive dimensions of psychological empowerment: meaning, competence, self-determination and impact. Meaning refers to the value of a work goal judged in terms of an individual's own values, beliefs and standards. Competence is an individual's capacity and ability required for

his/her work. Self-determination is an individual's ability to initiate a work-related action or behavior. Impact is the extent to which an individual can have influence on work outcome. Since psychological empowerment is influenced by employees' work environment, it can be seen as a logical outcome of SEP (Laschinger et al., 2001b) and as an important mediator between the SEP and empowering behavior (Laschinger et al., 2001b; Thomas & Velthouse, 1990).

Structural Empowerment (SEP)

Studies have shown that structural empowerment is an important predictor of empowering behaviors. Laschinger and her colleagues, based on Kanter's structural behavior theory, have developed a model. Based on this model, they have conducted studies to measure nurses' perception of empowerment in their working environment and the relationship between the level of empowerment and the employees' behaviors. For example, Laschinger, Finegan, and Shamian (2001c) studied the impact of workplace empowerment on staff nurses' work satisfaction and organizational commitment in urban tertiary care hospitals. The sample included 300 female and 300 male nurses. The findings suggested that staff nurses perceived their work setting to be moderately empowering. Among the empowering structures, perceived access to opportunity was the most empowering factor and perceived access to information, support, and resources were slightly lower and of similar magnitude. In this study, nurses did not perceive themselves with a high degree of formal power, but felt they had a moderate amount of informal power. All findings of Laschinger and her colleagues' studies were consistent.

Overall, the empowerment of working environment among clinical nurses has been found to be a significant predictor of organizational behavior, such as organizational commitment (McDermott, Laschinger, & Shamian, 1996), control over nursing practice

(Laschinger & Havens, 1996), work satisfaction and job strain (Laschinger, Finegan, & Shamian, 2001a), and level of burnout (Laschinger, Finegan, Shamian, & Wilk, 2003). All research findings support the idea that the level of structural empowerment is highly related to organizational behaviors.

According to Kanter (1977), if the working environment provides opportunity for growth and power to get things done, then the employees would perceive themselves empowered. However, if organizations do not provide enough opportunity and work-related power to employees, then employees would become powerless. Through empowerment, employees can have the opportunity to access information and then be able to make decisions related to their work. Therefore, it is very important to examine nurses' work environment. Nursing research related to empowerment mostly studied Kanter's empowering structures, without examining other organizational characteristics. Hence, the literature review must be extended to nurses' perception of their work environment and factors related to their job satisfaction.

Power Factors and SEP

According to Kanter, formal power and informal power are the primary sources of power. Therefore, they can be significant predictors of employee's empowerment. Bowles and Candela (2005) studied the issue of nurses' turnover. They investigated recent registered nurse (RN) graduates' perceptions of their first nursing position experience, and their reasons for leaving the position. The findings indicated that a majority of recent RN graduates believed that the working environment was stressful and not conducive to providing safe patient care, even though they felt the staff worked well together. The profession of nursing aims to provide holistic care to patients. However, nurses are not given the power to improve the service they provide (Bowles & Candela,

2005). They are powerless in shaping their work environment. Nevertheless, it must be noted that this study had a small sample size, which might limit its generalizability.

According to Laschinger, Sabiston, and Kutszcher (1997), both formal power and informal power directly influence the access to structural empowerment and indirectly influence employees' behaviors. The findings support the idea that formal power (the relevancy, flexibility and visibility of a job) and informal alliance are highly related to structural empowerment.

Background Factors and SEP

Research has suggested that several background factors might affect nurses' perceptions of their work environment. In Taiwan, few studies are related to SEP and among them, only one examined the relationship between background factors and empowerment. Therefore, some of the literature review was expanded to job satisfaction.

Age. According to Laschinger and Shamian (1994), nurses' age was significantly related to their perceptions of opportunity and job-related empowerment. Ellefsen and Hamilton (2000) compared the empowerment levels of nurses working in similar hospitals in Norway and the United States (USA). In the Norway sample, age was a significant factor related to informal power. The older the nurses, the more empowered they were.

Education. Employees with higher education tend to have more professional knowledge, which might increase recognition by peers (Ellefsen & Hamilton, 2000), and result in more power in an organization. In Ellefsen and Hamilton's study (2000) the education level in the US sample was a significant factor related to formal and informal power. However, in Taiwan's studies, unlike age or work experience, education was not significantly related to empowerment (Chen & Lin, 2002) or job satisfaction (Yu, Hu,

Chou, & Lai, 1999). Maybe Chinese culture plays an important role. Employees with seniority can be recognized and have more power. Furthermore, according to Huang et al.(2003), education was related to operation room nurses' preferred level of empowerment but not to the actual level of empowerment.

Position. In a hierarchical organization, people in higher positions should have more power. In Taiwan, a study was done in one medical center's operation room (Huang et al., 2003), where about 107 nurses reported their actual and preferred level of empowerment. The findings showed that nurses' positions were significantly related to nurses' preferred level of empowerment. It suggests that nurses in higher positions prefer a higher level of empowerment.

Work experience. Experienced nurses might perceive their work environment differently from those who are less experienced. Two studies in Taiwan related to nurses' job satisfaction were compared. One study found what nurses were most satisfied with was their relationship with their colleagues (Yu et al., 1999). However, the other study by Chang and Hsu (2000) had different results. Nurses were most dissatisfied with their relationship with their coworkers, especially doctors. Nurses felt that they were not respected by doctors. They did not think that doctors clearly expressed what they expected from nurses in work. Also, nurses did not feel being cared about in the working environment. The different results might have resulted from the fact that the nurses in Chang and Hsu's study were more experienced than those in Yu's. Therefore, they may demand more respect from doctors. It can be inferred that more experienced nurses might perceive their work environment to be less empowered. Another finding in this study was that nurses did not feel that they were respected by patients or their families. In

Taiwanese society, nursing is not considered as a profession. Nurses' social status is much lower than doctors' (Huang, 2005).

Work unit. A study based on Kanter's theory was done in Taiwan. Chen and Lin (2002) found that nurses perceived themselves with a moderate level of empowerment. The level of structural empowerment differed by work unit, but not by gender, education, or marital status. Nurses working in critical units had a higher score on structural empowerment than those in the operation room. Similarly, Chandler (1987) found critical care nurses differed significantly from medical and obstetric units on perceived support and access to information.

Type of hospital. McGillis Hall, Doran, Sidani, and Pink (2006) examined the differences in practices perceived by nurses employed in different settings. This study was carried out in eight acute settings, four teaching hospitals and four community hospitals. The participants included 928 female and 46 male nurses. Professional characteristics were measured, such as perceptions of job satisfaction, job stress, role tension, nursing unit leadership, effectiveness of care, and quality of nursing work and the work environment. The findings indicated that overall nurses in teaching hospitals had more positive perceptions of their work environment. They reported a lower level of role tension, and the scores of the quality of work and the work environment and levels of job satisfaction were higher than their colleagues in the community hospitals. It seems that teaching hospitals may have focused more on improving workplace strategies. Although in this study community nurses reported less work stress than teaching hospital nurses, they had a higher level of role tension, which might have resulted from work conflicts with other professionals and might indicate they have lower autonomy and professional relationships.

Contextual Factors and SEP

Gender. According to Kanter (1977), the number of women in management positions in an organization is low, compared to that of men. They are seen as "tokens". Tokens usually get great attention from others and the dominant group tends to draw boundaries to keep the tokens out in order to maintain commonality of the dominant (Kanter, 1977). Therefore, tokens tend to become isolated and have higher performance pressure. Women in the nursing field are the majority. Studies related to the token effect in nurses' SEP are scarce. Other related studies are included.

Snavely and Fairhurst (1984) studied tokenism among male nursing students. The researchers did not find any difference between male and female nursing students in social isolation, upward communication and performance pressure. The researchers argued that this might be because by its very nature, the nursing profession is about helping others. They also thought that performance pressure might only occur during the early rather than later stages of integration.

Another study in business school for testing tokenism indicates that there is no significant difference in performance between females and males in skewed (15:85), tilted (35:65) and balanced (50:50) groups (Alexander & Thoits, 1985). However, female students in a balanced group tend to have higher performance than those in a skewed group, which partially supports Kanter's tokenism effect. Finegan and Laschinger (2001) also studied gender difference in the access to structures of empowerment. They found that male nurses are not less empowered due to their token status.

Culture. Cross-cultural studies related to SEP are scarce. Only one was found. Ellefsen and Hamilton (2000) compared empowerment level between nurses working in similar hospitals in Norway and the United States (USA). The researchers found that

Norwegian nurses experienced more informal power than the American ones. They argued that the possible reason was that in the USA the primary care physician sometimes took care of their patients in hospital without a close relationship with nurses.

Psychological Empowerment (PE)

Studies have shown that PE is highly correlated with empowering behaviors and mediates the relationship between structural empowerment and empowering behaviors. The four dimensions in PE might have different roles to play in explaining the variance of the empowering behaviors.

Spreitzer (1996) examined the relationship between social structural characteristics at the level of work unit (perceptions of role ambiguity, span of control, sociopolitical support, access to information and resources, and work unit climate) and feelings of empowerment in a sample of middle managers from diverse units of one organization. There were 393 middle managers involved in this study; their mean age was 45.9 years. Among them, ninety three percent were men and over 85 percent were Caucasians. The results showed that role ambiguity was negatively related to empowerment. Other variables, such as wide span of control, sociopolitical support, access to information and unit climate, were positively related to empowerment. Surprisingly, access to resources was not significantly related to empowerment. Spreitzer provided two possible reasons. First, there were moderate correlations among information, sociopolitical support and resource scales (0.50 - 0.57), which might have suppressed the effect of resources on empowerment. Second, the survey items may not have been made explicit enough. Respondents might have used ideas of information and support to interpret those items. Overall the correlations in this study were not strong, ranging from 0.09 - 0.20, although they were statistically significant.

Spreitzer, Kizilos, and Nason (1997) did another study to examine the contribution of each of the four dimensions of psychological empowerment in predicting three expected outcome of empowerment: effectiveness, work satisfaction, and job related strain. Data were collected from two groups of samples. The first group contained 393 middle managers from an industrial organization. The second group included 128 lower-level employees from an insurance company. The results from the first sample indicated that meaning was significantly related to work satisfaction and more job-related strain but not related to effectiveness. Among the four dimensions of psychological empowerment, meaning explained significant variance about and beyond the other three dimensions in predicting work satisfaction. Competence was related to higher levels of effectiveness on the job and to lower levels of strain, but there was no relationship between competence and work satisfaction. Self-determination was only related to work satisfaction, not effectiveness or strain. Impact was only related to effectiveness. The results in the second sample showed similar findings, suggesting that empowerment dimensions are differentially related to different outcomes, and that a unidimensional definition of psychological empowerment is not adequate for predicting empowerment outcomes.

Laschinger et al. (2001b) also proposed that psychological empowerment was the outcome of structural empowerment and had an intervening effect on structural work conditions and organizational outcomes. In this study, they hypothesized that structural empowerment had a direct positive effect on psychological empowerment, which in turn had a direct positive effect on work satisfaction. In addition, psychological empowerment was predicted to decrease job strain, which would further enhance work satisfaction. The model was tested by using structural equation modeling techniques and results suggested

a strong model fit. Empowerment had direct effects on both job strain and job satisfaction. In other words, when access to empowerment structures was increased, the feelings of personal empowerment that employees experienced would in turn reduce job strain and increase job satisfaction.

Larrabee et al. (2003) studied the influence of nurses' attitudes (psychological empowerment and hardiness), context of care and structure of care on job satisfaction and intent to leave. The sample included 90 registered nurses from two medical, two surgical and three intensive care step-down nursing units at a university medical center. The mean age of participants was 34.6 years. Most of them were female (93.3%). Their educational preparation included BSN (50%), ADN (33%) and diploma (17%). The results indicated that context (transformational leadership) and structure of care (nurse/physician collaboration and group cohesion) had indirectly influenced nurses' job satisfaction through the influence on psychological empowerment. This study supported the idea that psychological empowerment had a mediating effect between work environment and employees' behaviors.

Background Factors and PE

PE is the individual level of empowerment. Individual background factors might have influence on their perceptions of level of empowerment. Studies have shown that age, education, and employee's position are highly related to PE.

Age. Hancer and George (2003) examined non supervisory employees' PE in full-service restaurants in Midwest United States. The sample size was 924. Over 44% of respondents were females with an age range of 20-25. Respondents aged 25 or below were identified as "younger" employees, and respondents aged 26 or above were identified as "older" workers. The results showed that older employees had higher scores

of meaning, competence, influence and overall empowerment than the younger employees.

Education. In Spreitzer's study (1996), when the relationship between social structural characteristics at the level of work unit and feelings of empowerment was examined, it was found that education was positively related to empowerment. Employees who had higher education were found to be more empowered.

Position. In Hancer and George's study (2003), employees in higher positions and full-time status had higher scores on all dimensions of PE. Especially the differences on the dimensions of meaning and competence and overall empowerment were statistically significant.

Contextual Factors and PE

Most literature related to empowerment is mainly based on American culture. Employees with different cultural values might perceive their work environment differently and then have different levels of psychological empowerment. According to Hofstede (2001), in high power distance cultures, employees are used to being led in a directive and non-participative way. The shift from authoritarian leadership to participative leadership styles might not be desirable in high power distance cultures. Hence, employees in high power distance cultures might have lower levels of psychological empowerment.

Dimitriades (2005) studied employee empowerment in the Greek context. The Greeks have been known to live in a high power distance society. The researcher hypothesized that (a) participants would report a lower level of psychological empowerment in comparison to subjects in similar Anglo-Saxon studies, and (b) high power distance value would be negatively associated with self-report feelings of

empowerment. The sample consisted of 154 Greek employed students in two tertiary education institutions. The findings were out of expectation. Participants reported favorable feelings of empowerment, similar to the studies in American, Canadian and Australian cultures. The second hypothesis that there is an inverse relationship between power distance value and feelings of empowerment was also rejected. The researcher was not sure whether the unexpected results were due to methodological flaws, or they simply reflected the reality. It is arguable that the participants in this study were in business-oriented postgraduate programs. They may have been exposed to the concept of empowerment more than other populations. Therefore, they may not have been a well representative sample.

Hechanova, Alampay, and Franco (2006) examined the relationship of psychological empowerment with job satisfaction and performance in five different service sectors in the Philippines. The Filipino culture is also known as a high power distance culture. A total of 954 employees participated in this study. The respondents were distributed by service sectors as follows: 28% hotels, 10% call center, 24% banking, 10% food, and 28% airline. The average age of participants was 27 years and the average number of working years was 3.2 years. The majority were rank and file employees. Female outnumbered males by a 2:1 ratio. The results showed a moderate correlation between psychological empowerment and job satisfaction ($r = 0.50$) with empowerment explaining 28% of the variance in satisfaction. Although psychological empowerment also had a significant relationship with performance ($r = 0.12$), that only explained 1% of the variance in performance. In this study, gender was found to have a significant association with empowerment. Males reported higher psychological empowerment than females even when job level and job performance were controlled in the analysis. Men

reported higher scores on competence and meaning in their work than women. In addition to gender difference, the level of empowerment was found to be significantly different across service sectors. Respondents in call centers and airlines reported the lowest levels of empowerment, whereas bank and hotel front-liners reported significantly higher levels of empowerment and job satisfaction. Bank and hotel may emphasize employee-client interaction more. Therefore, they could use empowerment to enable their front-line staff to customize the service beyond standard procedures. In sum, psychological empowerment might predict better in affective domain, not performance domain. In a high power distance culture, gender might play an important role in shaping employees' feelings of empowerment.

Participation in Decision Making (PDM)

PDM initially came from the concept of participative management, which encourages employees to be involved with the goals and work of the organization, thus producing the opportunity for individuals to have a sense of personal achievements (Williams, 1976). Employees who do not involve more in decision making tend to express greater job related tension and greater dissatisfaction (Alutto & Vredenburgh, 1977). According to Webster's English Dictionary (1996), there are two definitions of participation appropriate for PDM in organizations. The first meaning of participation is "the action or state of participating" including partaking a substance, association with others (partnership) or social interaction in a group for contributions. Second, participation means "share" or "something results in a share (distribution)". According to Harrison (1985), PDM can be seen as a socially constructed phenomenon based on the "mutual understanding" among superiors and subordinates. Therefore, PDM provides the opportunity for partnership that enables superiors and subordinates to work together to

share their knowledge and skills for a better outcome. A definition of participation that appears in the literature is related to the "amount of involvement" that employees have in decision-making (Miller & Monge, 1986). Based on different levels of involvement, PDM can have different scopes and may be carried out in different forms that can be direct or indirect, formal or informal, and forced or voluntary.

In literature the definition of PDM is not unified. Some believe that PDM is related to the delegation of or the access to power. According to Leana (1987), PDM is a group work or teamwork which emphasizes power equalization and social interaction. Through the redistribution of power, leaders share responsibility and show confidence in subordinates. When subordinates gain the access to power, they have more autonomy and in turn increase their participation in decision-making. However, some think there is no power shared or transferred in PDM (McDaniel & Driebe, 2001). PDM simply means "joint decisions" (Locke, Schweiger, & Latham, 1986) and "shared-influence" among the manager and employees (Wagner, 1994). Still, only managers possess the power for final decision-making. In summary, PDM is a multidimensional concept and can be defined in more than one way. However, in this study, PDM is defined as the level of decisional involvement. To reach successful PDM, the interpersonal relationship and interaction among managers and employees play a crucial role.

In a health care system, according to Anderson, Corazzini, and McDaniel (2004), the pattern of communication among nurses in a reward-based administrative climate has the potential to positively influence the quality of care and to lower the turnover rate among licensed vocational nurses and certified nurse assistants. Colón-Emeric et al. (2006) also pointed out that the open communication pattern helps decision makers to make appropriate decisions on clinical care due to the increased quantity and quality of

information available to them. Similarly, according to Hung et al (2006), the participation of primary care physicians in decisions on quality improvement and clinical practice is positively and significantly related to their work productivity. For nurses, the increased vertical participation among superiors and subordinates and horizontal participation among peers can increase their job satisfaction (Campbell, Fowles, & Weber, 2004). As such, the effect of PDM can be achieved through open communication and a great amount of information exchange. When employees are empowered, they may have more access to information for PDM. Therefore, PDM can be seen as an empowering behavior.

Laschinger et al. (1997) drew on Kanter's theory and studied the relationship between nurses' perceived access to empowerment structures and their perceptions of their degree of involvement in unit decisions. The study was conducted with a random sample of 233 nurses in an urban teaching hospital in a city and a rural community hospital. The mean age was 39.4 years, with an average of 16.6 years in the current area of employment. The result analyzed by SEM indicated that structural empowerment explained 80.5% of the variance in nurses' perceived involvement in work unit decision making. Also, informal power had a direct effect on decisional involvement. The finding suggested that informal power in terms of networking with other colleagues in an organization might generate better knowledge of and greater interest in organizational activities and in turn lead to greater participation in unit affairs. Moreover, the finding supported the idea that PDM can be an outcome of empowerment.

Background Factors and PDM

PDM often involves a group of agents (employees). The background factors of employees might influence the interaction pattern and subsequently the impact of PDM.

Studies have shown that age, education, position, and work experience are correlated to PDM.

Age. Kahnweiler and Thompson (2000) explored the effect of age, education and gender on the level of employees' desired and actual decisional involvement. The sample contained 826 non-managers employees from over 60 organizations which represented a broad cross-section of industries, sizes, geographical locations and business strategies. Results indicated that age had a significant effect on employee's desire for decisional involvement. Those aged 37-48 wanted the most involvement. Employees who were younger than 25 and older than 48 did not want to be as involved in decision making as those between 25 and 48. The reason for young employees with less desire for involvement might be related to their inexperience and a lower position at work. Those older than 48 did not want much involvement in decision making, probably because they perceived more involvement as heavier workload.

Education. According to Kahnweiler and Thompson (2000), employees with higher education wanted to involve more in decision making and perceived that they had more influence over decisions which affected them at work, compared to those with less formal schooling.

Position. In Denton and Zeytinoglu's study (1993), the faculty with a higher rank perceived a higher level of PDM. Those who reported having a network of colleagues at the university perceived themselves to have more opportunity for PDM. However, in Taiwan Yu and her colleagues' study (1999), the rank of position was not related to nurses' participation in decision making.

Work experience. People with more work experience tend to be more confident of their ability and might be consulted more during the decision making process. According

to Yu et al. (1999), nurses with more working experience had more opportunity to participate in unit decision making.

Contextual Factors and PDM

In different contexts, individuals might have different interactions and develop different forms of PDM. Studies have shown that gender and culture might influence the pattern of interaction in the process of PDM.

Gender. Denton and Zeytinoglu (1993) investigated the extent and determinants of female-male differences in perceived participation in decision-making among full-time faculty at a medium-sized Canadian university. In the university, there were 618 faculty members. Among them 13% were female, and only 11% of them were at the rank of full professor, compared to 50% of male faculty. Women tended to be found at the levels of assistant professor and lecturer. Although men had been over-sampled during data collection, the response rate of female faculty was higher than men. The total number of sample was 133; 69% were women and 41% were men. The results indicated a strong negative relationship between the female gender and perceived participation in decision making. Female faculty members tend to perceive less opportunity to participate in decision making than their male colleagues.

However, in Kahnweiler and Thompson's study (2000), the results indicated that gender was not a factor in how much employees wanted to be involved in decision making, or in how much they were asked to be involved in it. The possible explanation might be that in Denton and Zeytinoglu's study (1993), females tended to be in lower positions, whereas in Kahnweiler and Thompson's study (2000), females had similar positions with males (non-managers).

Chinese culture and PDM. According to Sagie and Aycan (2003), culture is the factor that can mostly explain the behaviors of individuals or groups in organizations. Different values, norms and beliefs may produce different pattern of behaviors in organizations. In western culture, it is believed that more communication is better. The relationship between nurses' perceptions of communication and PDM is significant (Rodwell, Kienzle, & Shadur, 1998). However, under the influence of Confucianism, the communication or interconnection pattern in a Chinese cultural context is very different from that in western societies.

First of all, according to the philosophy of Confucius, human relationships are hierarchical. In a society, each person has his/her own position and should follow the rule of ritual propriety in interacting with others (Chen & Chung, 1994), especially in the interaction between seniors and juniors. In Chinese, there is a saying that "seniors and juniors have their ranks." Therefore, seniors should protect the juniors and juniors should respect seniors. When this is applied to the work situation, employees should have loyalty and commitment to leaders and leaders should protect and be fair to employees (Chen, & Chung, 1994). This kind of hierarchical relationship in turn produces a particularistic relationship, which means, according to Yum (1988), different rules and interaction patterns are applied due to the different context and order of an individual's relationship. Through particular rules, people can avoid embarrassing encounters or serious conflicts (Chen & Chung, 1994). On the other hand, subordinates sometimes may have difficulty initiating direct communication with superiors because they are afraid of getting into trouble (Lu, 1998). Based on the hierarchical relationship, Chinese make their voice heard only when they are recognized (Gao, 1998) and the recognition is usually based on one's years of experience (seniority), education (knowledge) or power position

(authority). According to Hofstede (2001), this hierarchical relationship among Chinese is identified as high power distance. Power distance is the extent to which members of organizations within a country can accept the hierarchical power distribution and inequality as legitimate. In high power distance cultures, subordinates think that decision-making is the responsibility of the leaders at the top. This is congruent with Mok & Au-Yeung's (2002) finding that nurses in Hong Kong do not put too much emphasis on PDM. The reason is that those nurses are front-line nurses and they do not see themselves in the position to make decisions. Therefore, in the Chinese work context, the status of individuals determines the level of involvement in PDM.

Furthermore, the identity of self in Chinese culture is inseparable from the relations with others (Ng, 2000). If one accepts his/her role in society and respects the different orders of relationship, then harmony can be maintained in social relations. Therefore, Chinese people are encouraged to accept and adjust to the environment. In Chinese communication culture, harmony is fundamental (Chang & Holt, 1991). People should avoid confrontation and save each other's "face" in a social interaction (Chen & Chung, 1994; Gao, 1998). "Face" is very important for Chinese. It represents an individual's reputation and integrity of self in society. The loss of face might damage an individual's public image and affect his/her ability to function well in the community. To save the face of others is to maintain their interpersonal harmony. Additionally, according to Confucius, the superior person should be "slow in his speech and earnest in his conduct," which means that modesty and caution in speech are good virtues as cited in Lin and Legge's work (2003). In order to be cautious in speech, Chinese tend to be listening-centered while interacting with others (Gao, 1998). In a social interaction, who will be the speaker and who will be the listener depend on the role and the position in the

hierarchical structure. Usually the person with authority or higher social status does the talking and the person with lower social status listens. Another strategy that Chinese use to maintain harmony is the indirect speaking style. The ambiguity of verbal communication provides the room for flexibility to manage social distance between self and others and can be used to negotiate the boundaries of role relationship (Chang, 1999a). The indirectness in interactions can prevent direct challenges against particular rules of social relationship. Therefore, in order to maintain social harmony, Chinese always try to be polite to each other (Jia, Lu, & Heisey, 2002) and often use restraint and control in communication (Gao, 1998). Through passiveness in speech and activeness in listening, Chinese can maintain harmony in their relationships and daily lives.

Finally, for Chinese, there is a clear distinction between ingroup (insiders) and outgroup (outsiders) relationships (Chen & Chung, 1994; Gao, 1998; Yum, 1988). The distinction is based on the close or distant relationship between self and others (Chang, 1999). The ingroup members include the self and the closest others, like parents, siblings, spouse or close friends. Then the social relationship expand gradually to other distant relations, for example other relatives and non-family relationships. In Chinese interactions, according to Gao (1998), the communication patterns or contents with an insider are expected to be different from those with an outsider. The individual's relationship with insiders is built on mutual interdependence so that loyalty can be developed (Gao, 1998). Insiders provide support to satisfy personal desires. In general, an individual is more comfortable about communicating with an insider than an outsider. If an insider asks a favor, the individual will make a great effort to help the insider. However, if one outsider needs some help, then he/she needs to find an intermediary who knows both parties to make connections with the insiders (Gao, 1998). Through the

intermediary, the connection between the insiders and the outsiders can be established. The network of relationship can be expanded and the expanded relationship becomes another social resource. The distinction between insiders and outsiders therefore determine another particular interaction pattern.

Based on the previous discussion, the hierarchical relationship in Chinese communication culture provides particular rules that might prevent subordinates from expressing their personal opinions explicitly. In a Taiwan's nursing meeting, it is common that no body wants to be the first person to speak his/her opinion. People prefer to listen to what others think first because they are afraid that their personal opinion will be rejected by others (Gao, 1998). The health organizations in Taiwan are hierarchical. Physicians are dominant (Chen, 2003a) and have the official power to access information and resources. Nurses are more submissive and oppressed (Liu, 1998). Since Chinese make their voice heard only based on their status and positions, sometimes it is really hard for nurses to cross the hierarchical structure to make themselves heard. However, if a staff has a good network with other powerful persons and has a certain official position in an organization, then she has the opportunity to voice her opinions. Therefore, in a hierarchical organization, the size of network is an important factor to make self visible and enjoy more opportunities to participate in the strategic and tactical decision-making (Kanter, 1993).

Besides, the intention to maintain harmony (avoid conflicts) might inhibit the discussion of some controversial issues that may decrease the level of involvement in PDM. Usually when someone has already proposed a solution to a problem or an opinion on an issue, if another person does not agree, then he/she probably will not speak out at the moment. According to Chen (2002), in an effort to protect harmony, it is not common

for people to confront one another directly. For example, if the top leaders make one decision that is against the wish of the staff nurses, most of the time the nurses will just force themselves to follow the decision without direct confrontation because they do not want to get into trouble. The intention to maintain harmony is to save others' face and also a strategy to keep the individual away from possible conflicts.

Furthermore, the distinction between insiders and outsiders is a factor to predict the level of interaction among Chinese. Without enough trust, it is not easy or comfortable for Chinese to initiate a conversation with an outsider (Gao, 1998). When a nurse is sent to another unit to work, it is difficult for the nurse to fit into the environment very quickly, and it is also very hard to ask for help from other nurses. However, if there is enough trust in a group, then staffs can be very supportive of each other and have strong commitment to finish the desired tasks. Since Chinese work relationship is familial (Chen & Chung, 1994), when a manager is very supportive of staff nurses and gains trust among them, they will usually be more willing to open up and share their opinions, especially through informal meetings. Because informal meetings are less restricted, staff nurses can see the unit manager as a friend or family member. Once Taiwanese nurses have agreement on certain things, they will do their best to get things done, even though that might mean they have to work overtime without pay.

Based on the discussion above, Taiwanese nurses might not actively participate in decision making. The effect of empowerment on PDM is still not clear. There is a need to examine the relationship between empowerment and PDM among Taiwanese nurses.

Conceptual Framework

Through the literature review, it has been found that empowerment is a very broad construct. It is impossible to limit empowerment to one single perspective. Thus, the

conceptual framework of Laschinger's empowerment model has been modified to explain the major concepts of the study. The modified model includes the background factors that were not originally included in Laschinger's model, but were found from the literature review. Also this study adopts a feminist perspective to incorporate the contextual factor (culture and gender) into the framework. Finally, in this conceptual framework, there were several parameters, including contextual (gender and culture), background, and power factors. Power factors are the predictor of SEP. PE can be seen as an outcome of SEP and a mediating factor between SEP and PDM. Meanwhile, background factors and contextual factors are important determinants of empowerment and PDM. The overall conceptual framework is presented in Figure 1.

Summary

In this chapter, the theoretical background of this study and the related literature review have been provided. Feminism and Laschinger's empowerment model were used to examine Taiwanese nurses' empowerment. Literature related to SEP, PE, PDM, power factors, background factors and contextual factors has been critically reviewed, revealing that studies related to nurses' empowerment and PDM are mainly quantitative studies. No qualitative study has focused on the contextual factors related to nurses' empowerment. The goal of feminist research is to capture women's lived experience and to legitimate women's voice as sources of knowledge (Campbell & Wasco, 2000). Quantitative research provides a partial truth of women's lived experience. The quantitative findings translate women's experience into predetermined categories (Campbell & Wasco, 2000) without bringing more depths to capture the whole picture of women's lived experience. Therefore, mixed methods based on the conceptual framework were applied in studying

the range of issues concerning Taiwanese nurses' empowerment. Details regarding mixed methods are introduced in Chapter 3.

Chapter 3: Methodology

In this chapter, the methodology that was used in this study is presented. First, the rationale for using a mixed-method methodology based on a feminist perspective is provided. Then, the types and purposes of mixed methods are discussed, followed by a specific explanation of the use of mixed methods in this study. Afterwards, the rationale for using internet methods, general issues in internet research, and the advantages and challenges in internet research are presented. This chapter also includes the description of research design, setting, sample, instruments, procedures of data collection and data analysis. Finally, the findings of a pilot study are reported.

Feminism and Mixed Methods

According to feminism, the conditions surrounding our lives are always simultaneously the product of personal and structural factors (Reinharz, 1992), and gender is a key component for construction of social reality (DeMarco, Campbell, & Wuest, 1993). However, traditional research has ignored issues important to women, devalued women's experience and silenced women's voice (Throne & Varcoe, 1998). According to Malterud (1993), it is not the volume of voice that matters. It is about the validity of voices. The construction of knowledge is highly related to power. Those who have power have voice. It is men who have power to label what counts as legitimate knowledge (Hagell, 1989). In order to let women's voice be heard, women should be empowered. Hence, research should reflect women's reality rather than the traditional, scientifically accepted norms for what counts as knowledge. The traditional quantitative and reductionist methodology has been seen as a limiting factor in construction of women's knowledge. It seems that only the qualitative research methodology, which values subjective and multiple realities, is consistent with feminist critique. However, if

feminist research only values qualitative research, a relativist conclusion may be inevitable (Throne & Varcoe, 1998). It is urged that feminist researchers should be aware of the tension between individual realities (the particular) and social realities (the general) in the construction of knowledge which transcends methods (Throne & Varcoe, 1998).

Furthermore, Tong (2001) elaborated on the challenges between absolutism and relativism. She pointed out that if feminists accept that women are the same, then feminists obscure important racial, cultural and class differences among women. However, if feminists overemphasize women's differences, then they lose the power to speak about gender justice, women's rights and sexual equality in general. Based on above argument, in order to conduct research reflecting women's realties, it is important to explore women's particular (different) and general (common) experiences. The particular experience can be explored through a qualitative method which aims to understand the multiple realities among women. The general experience can be explored through a quantitative method to measure the relationship between variables and to predict the outcome. Such mixed methods not only add layers of information, but also use one type of data to validate or refine another (Reinharz, 1992), and may further help researchers to enhance the scope of warrantable evidence (Forbes et al., 1999).

Mixed Methods

The mixed-method design, which includes at least one quantitative method and one qualitative method (Greene, Caracelli, & Graham, 1989), has become a more appropriate research design for studying a complex phenomenon (Steckler, McLeroy, Goodman, Bird, & McCormick, 1992). According to Sandelowski (2000), the various dimensions of phenomenon may be method-linked and may be best captured by different

methods. Therefore, mixed methods can be used to expand the scope of a study and to capture the different aspects of reality.

According to Creswell (2003), when selecting a mixed methods for a study, researchers need to consider four decisions: (a) the implementation sequence (b) the priority (c) the stage of integration and (d) theoretical perspective. Implementation sequence means that the researchers apply both methods sequentially or concurrently. Between these two methods, one will be given greater priority or maybe two will be weighted the same (equally). Also researchers need to concern at what stage these two methods will be integrated, whether it is at the stage of data collection, data analysis, data interpretation or the combination of stages. The final factor for considering the research design is whether a larger, theoretical perspective guides the entire study. The perspective may be from implicit or explicit theories.

Creswell (2003) then provided six types of mixed methods strategies: (a) sequential explanatory, (b) sequential exploratory, (c) sequential transformative, (d) concurrent triangulation, (e) concurrent nested, and (f) concurrent transformative strategy. The priority of the sequential explanatory design is given to quantitative data and the purpose is to show qualitative results to help explain and interpret the findings of a quantitative study. The sequential exploratory design is to explore a phenomenon and use quantitative results to assist the interpretation of qualitative findings. Unlike the previous two designs, in the sequential transformative strategy, a theoretical perspective is used to guide the study. The priority can be given to either the quantitative or qualitative method, or both. The purpose is to choose methods that can serve the theoretical perspective best for understanding a phenomenon. The concurrent triangulation design is to uses two different methods to confirm or cross-validate the

findings within one study. The collections of quantitative and qualitative data are concurrent. The concurrent nested design has a predominant method in the study and another method is just embedded within the predominant one. The embedded method focuses on a different question or different level of information. The concurrent transformative design is similar to the sequential transformative design. The only different thing is that the two types of data are collected at the same time.

Greene et al.(1989) identified five purposes of mixed methods through literature review: triangulation, complementarity, development, initiation, and expansion. Triangulation seeks convergence, corroboration, correspondence of results from the different methods. Complementarity seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method. Development seeks to use the results from one method to help develop or inform the other method, where development is broadly construed to include sampling and implementation, as well as measurement decisions. Initiation seeks the discovery of paradox and contradiction, new perspectives of frameworks, the recasting of questions or results from one method with questions or results from the other method. Expansion seeks to extend the breadth and range of inquiry by using different methods for different inquiry components.

In sum, in this study, feminism is the theoretical perspective to guide the use of mixed methods. The purpose of using mixed methods is to complement the findings from each method and to expand the scope of inquiry to gain a deep understanding of Taiwanese nurses' empowerment. Mixed methods are used in the stages of data collection, data analysis and interpretation. Although the quantitative method is used first,

the two methods actually collect the data in the same phase. Hence this study is a concurrent transformative design, based on Creswell's types of mixed methods.

Internet Methods

With the advancement of technology, the Internet has become an important part of human life. Knowledge construction and dissemination, and the individual's interaction style have been changed dramatically through the Internet (Ou, 2004). In Taiwan, the Ministry of Education has established computer course standards which include teaching the processing of text and images files, internet usage and web page design (Jiang, Chen, & Chen, 2004) for nursing students. Due to the implementation of computerized nursing care plan in large hospitals, on-the-job computer training has been provided for clinical nurses (Lee, Yeh, & Ho, 2002). In addition, the Bureau of National Insurance has started using computerized insurance cards, and this has pushed smaller hospitals to use computerized systems. Therefore, the nurses' capability of using computers and the popularity of computers in Taiwanese hospitals have made the Internet a highly feasible data collection method.

Furthermore, in this study, qualitative research was involved. Nurses in Taiwan usually have very tight work schedules. To ask them 1-2 hours for an interview might be a difficult thing. Also, the researcher might ask participants about their perception of their work environment. If the interview is conducted face to face in the hospital, the nurses might not feel comfortable talking about some negative things about hospitals. Therefore, in order to have nurses comfortably share their experiences, the internet method is more suitable.

Studies have shown several advantages for researcher to use internet methods, including increased access for sensitive issues, vulnerable or hidden population,

decreased time for data entry and increased data accuracy (Duffy, 2002; Im & Chee, 2004b; Strickland et al., 2003). In addition, there are several advantages for participants, such as participation according to their convenience, anonymity in the virtual environment, and increased participants' comfort (Ahern, 2005; Moloney, Dietrich, Strickland, & Myerburg, 2003; Nosek et al., 2002). However, there are some issues and challenges associated with internet research, such as sampling bias, the authenticity of participants, and other technical problems (Braithwaite, Emery, Lusignan, & Sutton, 2003; Dillman, 2000; Duffy, 2002; Fawcett & Buhle, 1995).

In this study, the internet mixed methods are web-based survey and online discussion forum. The detailed advantages and challenges of internet methods are discussed in four principle issues: (a) recruitment, (b) data quality, (c) practical, and (d) ethical issues.

Recruitment Issues

Usually the participants of an internet study are recruited through website announcements, e-mail contacts or/and word of mouth. Hence, only people with internet capability and access can participate in an internet study. The representativeness of the sample becomes a concern. Two issues are discussed below: sampling bias and response rate.

Sampling bias. In the past, it was believed that male, married, young, and sufficiently educated persons are the major population for using the Internet (Duffy, 2002). However, with the rising popularity of the Internet, the number of females using the internet has increased a lot (Courtney & Craven, 2005). According to the Taiwan Network Information Center (2002), the percentages of male and female internet users are 53.8% and 46.2% respectively. The percentages of internet usage in the populations

aged 15-24, 25-34 and 35-49 are 88.3%, 72.7% and 50% respectively. Most Taiwanese nurses are young, aged from 20-35 (Lee & Chang, 2002), and they are professional persons with sufficient education. Therefore, the sampling bias for internet studies among Taiwanese nurses is likely to be minor. Furthermore, to ensure the representativeness of sample, the researcher can set up criteria based on selected demographic characteristics in screening participants (Duffy, 2002). With creative and careful recruitment strategies and research design, the representativeness of sample can be better ensured.

Response rate. The response rate of internet survey is often low (Braithwaite et al., 2003; Lakeman, 1997) and can range from 2% (Im & Chee, 2004b) to 94% (Potts & Wyatt, 2002). The participants in Im and Chee's study were cancer patients and those in Potts and Wyatt's were doctors in the United Kingdom. Hence, participants' characteristics, such as health status and internet skill might be a main factor related to low response rates. Other possible factors related to low response rates may include (a) less receptive mailing list (Lakeman, 1997) or list owner's nonresponse to researcher (Im & Chee, 2004c), (b) the fear of computer virus (Leece et al., 2004), (c) technological problems (Duffy, 2002), (d) lack of incentives (Im & Chee, 2004a), and (e) lack of research salience (Cook, Health, & Thompson, 2000). Several strategies have been suggested for increasing response rates, for example, reminder letters, personalized e-mail and incentives (Braithwaite et al., 2003; Cook et al., 2000; Im & Chee, 2004c). Although internet surveys might have lower response rates compared to traditional methods, participants usually respond very quickly (Im & Chee, 2004c). Researchers should also keep in mind that high response rates do not necessarily guarantee a better representativeness and vice versa (Cook et al., 2000).

Data Quality Issues

Through the Internet, data can be collected beyond the limitation of time and location. More diverse participants can be reached. However, due to the anonymity of participants, data fraud might be a problem. In the following sections, the issues of data authenticity, data accuracy, reliability and validity are discussed.

Data authenticity. The anonymity of participants and the displaced presence of the researcher might create the possibility for repeated submissions of the survey questionnaire by the same individual for more reimbursement. Sometimes it is not easy to detect multiple submissions unless the individual uses the same e-mail address, demographic data or responses to the questions (Fawcett & Buhle, 1995). Gosling, Srivastava, and John (2004) suggest using the Internet Protocol (IP) address to detect repeated submissions or only giving the authorization (specific username and password) to a valid e-mail address. However, the first suggestion might violate the participant's privacy and the second might discourage the interest of potential participants. It is arguable that the problem of repeated submissions pertains only to internet studies (Fawcett & Buhle, 1995). The mail survey method may also have the possibility of multiple submissions. Another related problem is intentional deception which means participants just make up responses. They do not respond faithfully based on their true beliefs and values. In this case, during the course of a study, researchers can employ the repeated use of marker questions, which are questions requiring definitive answers, to detect intentional deception (Nosek et al., 2002).

Data accuracy. Despite the above disadvantages of internet study, one major advantage is that the data obtained from the questionnaires can be directly downloaded into a data analysis program (Strickland et al., 2003), which in turn decreases the error of

data coding and increases accuracy and efficiency of data entry and data analysis. Through internet surveys, participants can complete the questionnaire with fewer missing data and with less social desirability (Kiesler & Sproull, 1986). Moreover, the researcher may have tighter control of the order of questions and prevent participants from returning to change their answers (Braithwaite et al., 2003). For internet qualitative research, the interaction is very different from that of verbal or face to face, in that only text communication is involved, with no voice, tone or gesture. However, participants can still use some face symbols to indicate their emotions. In addition, participants are anonymous in the internet research environment which then creates a horizontal communication to produce a freedom and equality among the users and provides participants with a sense of safety and comfort (Lin, 1999). Participants would not have the pressure of coercion (Nosek et al., 2002) and would be willing to share more intimate details on sensitive topics (Ahern, 2005). Moreover, because the texts are already there on the forum, there is no need for transcription. The bias or mistakes from transcription can be eliminated (Mann & Stewart, 2000).

Reliability and validity. People have questioned that the different presentations of questionnaire between paper and internet versions might influence the research result (Duffy, 2002). Several studies have tested the psychometric properties of paper-based and internet-based questionnaires and found similar validity, reliability and scores between these two formats (Im et al., 2005; Leung & Kember, 2005; Meyerson & Tryon, 2003; Ritter, Lorig, Laurent, & Matthews, 2004). These findings suggest that the internet versioned questionnaire is reliable and valid as long as the researcher has carefully selected an instrument with good evidence to support the reliability and validity. For internet qualitative research, according to Kenny (2005), credibility or confidence can be

gained through prolonged engagement and persistent observation. Since all the texts are remained online for a period, participants can look at their responses frequently to ensure that their experience is truly reflected by the words. Hence, through member checking, face validity of the text can be enhanced.

Practical Issues

The Internet provides a very fast and convenient data collection method. Even in qualitative research, researchers can overcome the conflicts of schedule and recruit more diverse participants from different geographic areas (Mann & Stewart, 2000). However, using the Internet requires more expensive equipment. Issues regarding technical problems, and cost and time are presented below.

Technological problems. The use of different browsers, operating platforms and computer equipment may lead to different displays of the web page (Dillman, 2000) and the researcher has no control over this. Sometimes participants who have old web browsers might not be able to advance the questionnaire from page to page (Strickland et al., 2003). Sometimes the loading speed can be very low which in turn increases participants' withdrawal rate (Braithwaite et al., 2003). Besides, the researcher's lack of ability for operating a computer and the associated software can be a disadvantage of using the internet for data collection (Lakeman, 1997).

Cost and time. Compared with traditional mixed methods study, the expense of cost and time of the internet mixed method is much lower. The major cost for an internet study is in the items of computer equipment, software, server, website construction, survey and forum placement. However, the cost for participants' recruitment, contacts, data entry and data analysis is much lower than traditional research methods (Weber, Yarandi, Rowe, & Weber, 2005). If the equipment can be repeatedly used or be used for a

large sample size, then the average cost of data collection over the Internet is greatly reduced (Leece et al., 2004). According to Weber et al.(2005), when the number of participants exceeds 32, the cost of internet study is lower than traditional research methods. For qualitative data collection, researchers can greatly reduce the expense and time not only on traveling but also on data transcription (Lakeman, 1997; Mann & Stewart, 2000).

Ethical Issues

The risk of harm in an internet study is minimal, not greater than that of daily life. However, the Internet is a public domain. Issues regarding data privacy, confidentiality and security are discussed below.

***Privacy and confidentiality*.** Usually in internet studies, participants can choose to use a pseudonym or just provide a personal e-mail with no other identity information needed. Therefore, the protection of privacy and confidentiality should not be a problem. The only identifiable information is the IP (internet protocol) address which can be recorded while a participant transmits data from a computer to the server (Nosek et al., 2002). If the researcher records the IP address, it is possible to track the participant's location. However, according to Health Insurance Portability and Accountability Act (HIPPA) (2007), tracking IP address is considered as getting information on identifier. Researchers should assign a serial ID number to the data so that participants cannot be identifiable directly through the identifying information linked to them.

Security. In an internet study, the data are stored on a server, not papers. The risk of losing the data or having them stolen is much lower than that of traditional paper-based data (Weber et al., 2005). Usually the data are protected by firewall and secure server line technology (Nosek et al., 2002) to prevent the invasion of a third party. Only

authorized people have access to the data. For online forums, the website can be set up as hidden from public so that only registered persons can see the posted messages. However, there is always a possibility of intentional intrusion.

Research Design

This study was a cross-sectional and internet mixed-methods study which included an internet questionnaire survey (quantitative) and a web-based online forum (qualitative). The online forum contains three main topics on Taiwanese nurses' empowerment: work environment; gender, culture and power; and participation in decision making. The internet questionnaire survey contains background questions (Appendix 1), and three Chinese versioned questionnaires including Nursing Work Empowerment Scale (NWES), Psychological Empowerment Instrument (PEI), and Decisional Involvement Scale (DIS). The background questions included sex, age, education, working experience, type of hospital, nursing ladder, work unit, and workload.

Regarding the nursing ladder, N0 represents new graduates. N1 represents nurses who have worked for 1 year and completed the N1 training. N2 represents nurses who have worked for 2 years and have the ability to carry out basic critical nursing care. N3 represents that nurses who have worked for 3 years and have the teaching ability. N4 represents that nurses who have worked for 4 years and have the ability for holistic critical nursing care. The types of hospitals were differentiated based on the facilities, the number of beds, physicians, and specialties. In Taiwan, the types of hospitals included Medical Centers, regional and local hospitals. Among them, some were teaching hospitals. Hence, in this study, the types of hospitals included Medical center, teaching, regional and local hospitals.

Study Setting

There was no specific geographic location for this study. In this study, a national sample was intended to be reached. In Taiwan, five internet websites of nurse associations in different areas were contacted for assistance with the publicity of the study. Also potential participants were recruited through personal network (snow ball) via e-mails.

Research Participants

Inclusion Criteria

For this study, the criteria for potential participants were Taiwanese nurses (a) who were currently working full time in health care institutions for at least 3 months since in Taiwan hospitals the probation period usually was for 3 months, (b) could read and write Chinese on the computer, and (c) had access to the Internet. In order to prevent false self-identification, a screening test (Appendix 2) was set up to verify the eligibility of potential participants before they enter the survey pages. A convenient sampling method was applied to recruit potential participants.

Sample Size

In this study, quantitative research questions were analyzed by descriptive, correlation and regression statistic methods. Based on the conceptual framework, there were 11 independent variables (2 in power factor, 7 in background factor, structural empowerment, and psychological empowerment). Based on the result of pilot study, the effect size (adjusted R square) was 0.10. The sample size was calculated by using the nQuery program. When the sample size is 162, the multiple linear regression test of R^2 =

0 ($\alpha = 0.05$) for 11 normally distributed covariates will have 80% power to detect an R^2 of 0.1. In this study, the total number of participants who completed the internet survey was 171.

For the online forum, since it served as a focus group, usually 6-12 persons could be seen as an effective size for complex topics (Krueger, 1994; Stevens, 1996). Based on the experience of the pilot study, the retention rate was expected to be about 30%. Therefore, if at least ten participants should be retained as a focus group, then at least 30 participants who had already completed the internet survey should be invited into the forum. In this study, at the end of online forum, total 20 participants completed all three discussion topics. The retention rate was about 83%. The sample characteristics are described in Chapter 4 (results of quantitative study) and 5 (results of qualitative study).

Instrumentation

In this study, three questionnaires were used for data collection. The questionnaires were translated and pilot tested for content validity and reliability. The procedures and results are presented in the final section of chapter 3. The details of each questionnaire are presented below. The instruments are summarized in Table 1.

Psychological Empowerment Instrument (PEI)

PEI was developed by Spreitzer (1995) to measure employees' personal beliefs of their work role in relation to empowerment. This instrument has been widely used in management organizations. The overall test-retest reliability has been strong at about .80. The total number of items in the English version of PEI was 12. The format of PEI was a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Spreitzer (1995) developed a partial nomological network for construct validity. The relationships between psychological empowerment and those conceptual related variables (antecedents) were used for assessing convergent and discriminant validity. The antecedents of psychological empowerment were self-esteem, locus of control, access to information (mission and performance) and rewards. She proposed that these antecedents were positively related to psychological empowerment but were distinct from the overall construct of psychological empowerment. Additionally, the relationships between each empowerment dimension and two theoretically derived outcomes were examined for discriminant and criterion-related validity. Spreitzer (1995) postulated two consequences of psychological empowerment which were innovative behavior and managerial effectiveness and then hypothesized that psychological empowerment was positively related to these two behavior outcomes.

A secondary-order confirmatory factor analysis (CFA) and structural equation modeling (SEM) were used to assess the convergent and discriminant validity in both samples. The goodness-of-fit index (GFI) was 0.93 in industrial sample and 0.87 in insurance sample. In industrial sample, the value of GFI (> 0.9) indicated a good fit (Munro, 2001). Each item was loaded on one appropriate factor which suggested the dimensions are clearly not equivalent.

In Taiwan, a study used PEI to measure the relationship between psychological empowerment and social loafing among bank employees (Chen, 2003b). The Cronbach alpha was .88 and the four factors explained 77.55% variation in the construct. Another study by Mok and Au-Yeung (2002) in Hong Kong was related to the relationship between organizational climate and empowerment of nurses in Hong Kong. They deleted three items in PEI because the experts found these three items in the Chinese translation

were similar to other items in the same subscale. The Cronbach alpha of meaning, competence, self-determination and impact scale was 0.74, 0.74, 0.71 and 0.81 respectively (Mok & Au-Yeung, 2002). In this study, based on the feedback from expert reviews and the result of the reliability test in the pilot study, three items were deleted. More details are provided in the pilot study section. The total number of items in the modified PEI was 9. The modified English and Chinese version of PEI are attached as Appendix 5 and 6, respectively. In this study, the Cronbach's alpha of PEI was 0.91.

Nurse Work Empowerment Scale (NWES)

NWES was developed by Laschinger (1996). In nursing, Chandler (1987) was the first nursing researcher to test Kanter's theory. She carried out a large survey to test the instrument's reliability and validity among 268 registered nurses. Building on Chandler's work, Laschinger (1996a) started an empowerment research program in Canada to further test and refine the questionnaire. Laschinger modified and developed NWES with three scales: Conditions of Work Effectiveness questionnaire II (CWEQ II), Job Activity Scale (JAS), and Organizational Relationship Scale (ORS). The number of total items for CWEQ-II, JAS and ORS is 12, 3 and 4 respectively (Appendix 7). The format of these three questionnaires is a 5-point Likert scale ranging from 1 (none) to 5 (a lot). The higher the score is, the higher the level of structural empowerment is. The Chinese version of NWES is attached as Appendix 8.

In CWEQ II, four subscales (opportunity, information, supply and resources) are used to measure empowerment. JAS is for measuring formal power, and ORS is for measuring informal power. CWEQ-II has been widely tested in nursing. Evidence for reliability and validity has been well established. The Cronbach alpha for these subscales has ranged from 0.73 to 0.91 for opportunity, 0.73 to 0.98 for information, 0.73 to 0.92

for support, and .66 to .91 for resources (Laschinger, 1996b). For JAS and ORS, the ranges of Cronbach alpha reliability coefficients are 0.70 -0.86 and 0.85-0.90 respectively (Laschinger, 1996b). According to Laschinger (1996a), a confirmatory factor analysis and a structural equation modeling were conducted to test the model and the evidence supported the construct validity of the CWEQ, JAS and ORS. In this study, the Cronbach's alpha of CWEQ was 0.94.

Decisional Involvement Scale (DIS)

DIS was developed by Havens and Vasey (2005), which contains six constructs: unit staffing, quality of professional practice, professional recruitment, unit governance and leadership, quality of support staff practice, and collaboration/liaison activities. However, in Taiwan there are no support staffs in hospitals. After the consultation with the scale developer, three items related to quality of support staff practice were deleted for this study (Appendix 9). Therefore, the total number of items is 18, each with a 5-point Likert scale ranging from 1 (only administrators/managers) to 5 (only nurses). The Chinese version of DIS is attached as Appendix 10.

DIS has been tested among nurses. According to Havens and Vasey (2005), the coefficient alpha for the six constructs ranged from 0.70 to 0.90. For construct validity, atheoretic measures of fit, including discrepancy measures and the root mean square error of approximation, were carried out to examine the model fit. The result indicated that the six-scale model approximated the performance of a saturated model, which supported the evidence of construct validity. In this study, the Cronbach's alpha of DIS was 0.92.

Table 1: A Summary of Instruments

Concepts	Instrument	Validity	Reliability
Background factors	8 questions on age, gender, education, working experience, workload, work unit, and type of hospital	NA	NA
Power factors (2 variables)	Formal power; Job Activity Scale (JAS)	Well established	Cronbach's alpha = 0.86
	Informal power; Organizational Relationship Scale (ORS)	Well established	Cronbach's alpha = 0.81
Structural empowerment	Conditions of Work Effectiveness Questionnaire (CWEQ)	Well established	Cronbach's alpha = 0.94
Psychological empowerment	Psychological Empowerment Instrument (PEI)	Well established	Cronbach's alpha = 0.91
Participation in decision making	Decisional Involvement Scale (DIS)	Construct validity established	Cronbach's alpha = 0.92

Note. NA= not available

Procedures for Data Collection

A research website for the internet survey and online forum were set up in the Texas, United States. The questionnaires were uploaded onto the study website. The three main online forum discussion topics were posted one by one within a month (one topic per week).

The nursing organizations and nursing associations which were found through the internet were contacted for announcing the study to their members. The researcher sent out the flyer through e-mails to five online nurse groups and two online discussion forums. In addition, the e-mails or paper study flyers were distributed through the researcher's personal network (such as friends and colleagues). All participants in this

study were voluntary. The internet survey was self-administered and self-reported, and it had no specific geographic or physical setting. After the participant finished the internet survey, he/she was asked to participate in the online forum. When the number of participants who agreed to the online forum reached 30, the online forum discussion started. Incentives were provided. Participants who completed the internet versioned questionnaires were reimbursed with $100 NT dollars (about 3 US dollars). Participants who completed the one month online forum were reimbursed with $ 300 NT dollars (about 10 US dollars).

There was a screening test (Appendix 1), which contained three questions of inclusion criteria. When the participant was checked against the inclusion criteria, he/she was asked to create an account with his/her e-mail address and a personal password. Then the participant could log into the web survey questionnaire. The estimated time for completing the questionnaires was about 15-20 minutes. The researcher later checked the completeness of the survey. If there was too much missing data or the questionnaire was not completed, then a reminder letter would be sent out to the participant via e-mail.

For the online forum study, participants who agreed to participate received an e-mail to verify their participation. Personal login name and password were e-mailed to each participant. In the e-mail, participants were assured that the website content was restricted and invisible to the public. Only participants with valid usernames and passwords could log into the online forum to post responses. The participants were asked to answer several open-ended questions on five topics, which were about (a) introduction, (b) work environment, (c) gender, culture and power, (d) participation in decision making and (e) wrap-up. The online forum lasted for at least four weeks and the topics were posted on the online forum site in sequence. Every week 1-2 topics were posted.

However, depending on participants' responses, if the topic was not responded to by most participants, then the next topic would be held back for one more week, and a reminder letter sent out one more time. Based on the findings from the pilot study, the 1-2 month period was feasible and adequate for the specific population, Taiwanese nurses. During the third week of the discussion, the participants would be asked to add other topics that they wanted to discuss. Then the added topics and the wrap-up questions were discussed in the final week. The details of the questions were described in Appendix 11 (English version). The Chinese version of the online forum questions was attached as Appendix 12.

The completion time for both the survey questionnaires and online forum discussion questions was around 1 hour. For the survey, participants needed to fill out the questionnaire once. The total completion time was about 15-20 minutes. For the online forum, writing a 5-line message took about 5-10 minutes. In this study, at least one message per topic was required. In sum, it took about 20-40 minutes to write a total of 4 messages in the online forum. Again, participants could log into the website any time to answer questions at their convenience.

Protection of Human Rights

Informed Consent

This study was approved by the Institutional Review Board in the University of Texas at Austin. The informed consent was provided online. When potential participants visited the study website, they were asked to review the Chinese informed consent page (Appendix 3) which included the title of the study, information of principal investigator, the purpose of the study, inclusion criteria of participants, possible discomforts and inconvenience, potential benefits and risks, confidentiality, anonymity, their contribution

to the study, and their right to withdraw from the study at any time. Potential participants who agreed to participate in the study were asked to provide their consent to participate by clicking the button "I agree to participate in this study" to enter the survey page. The English version of informed consent was also attached as Appendix 4.

Protection of Confidentiality

In this study, only e-mail addresses were requested and no personal identities were asked during the data collection period. Since participants only used their e-mail address for identification, data analysis was blind to the real identity of participants. Also, findings from this study would be presented as group data only. No individual's information would be identified. When participants fulfilled the requirements of participation, they were asked about their name and address only for the purpose of reimbursement.

To ensure confidentiality, only the investigator had access to the data. All collected data was stored on a server and saved into personal computer which was protected with a password and known only by the investigator.

Data Analysis

Quantitative Internet Survey Data

There were two sources of data, quantitative data and qualitative data. The quantitative data came from the internet questionnaire survey and was analyzed with the Statistical Package for the Social Science (SPSS for windows version 12.0). Descriptive statistics were used to present sample nurses' characteristics, and included frequency, percentage, mean with standard deviation, and range. Before data analysis, the

assumptions for correlation and regression were checked first, such as normality, linearity, independence, and homoscedasticity. Also, the internal consistency reliability for each instrument was rechecked. The data analysis procedures for each research question were described below.

Research question 1. This question was to explore the level of Taiwanese nurses' structural and psychological empowerment. Descriptive statistics, including mean, range and standard deviation, were used.

Research question 2. This question was to explore the Taiwanese nurses' actual and preferred level of PDM. Descriptive statistics, including mean, range and standard deviation, were used.

Hypothesis 1. This hypothesis was to examine if the Taiwanese nurses' preferred level of PDM is higher than their actual level of PDM. Paired t-test (one tail) was used to compare the difference between the scores of each pair of subscales in DIS and between the two total scales (actual and preferred levels in DIS).

Research question 3. This question was to explore the relationship between background factors and SEP; power factors and SEP; background factors and PE; background factors and PDM; SEP and PE; SEP and PDM; and PE and PDM. Bivariate correlations or Kruskall-Wallis test were used to examine the relationship between variables.

Research question 4, 5, and 6. These questions were to explore the possible predictors of Taiwanese nurses' SEP, PE and PDM. Multiple regressions were used to identify significant predictors for each dependent variable. Multicollinearity was examined by checking correlation coefficients, tolerance and variance inflation factors (VIF).

Research question 7. This question was to explore if PE mediated the relationship between SEP and PDM. Correlation and regression were used to test the relationship between SEP, PE and PDM. According to Bennett (2000), three regression equations should be tested for statistical significance of a mediator effect. First, the independent variable (SEP) is a significant predictor of the mediator (PE). Second, the independent variable (SEP) is a significant predictor of the outcome variable (PDM). Third, the independent variable (SEP), mediator (PE) entered together with the outcome variables (PDM). If PE is a mediator between SEP and PDM, then two conditions should be met: (a) PE is a significant predictor of PDM and (b) the direct relationship of the SEP to PDM is less significant than it was in the second equation (Baron & Kenny, 1986). In other words, in equation three if PE is a significant predictor but not SEP, then PE fully mediates the relationship between SEP and PDM. However, if both PE and SEP are significant predictors, the PE only partially mediates the relationship between SEP and PDM. If PE fully mediates the relationship between SEP and PDM, then the indirect effect of SEP on PDM via PE should be tested by using Sobel's test.

The Sobel's test proposed by Preacher and Hayes (2004) was used for testing the indirect effect. Four equations were tested: (a) the total effect of the independent variable (SEP) on the dependent variable (PDM), (b) the effect of the independent variable (SEP) on the mediator (PE), (c) the effect of the mediator (PE) on the dependent variable (PDM), controlling for the independent variable (SEP), and (d) the direct effect of the independent variable (SEP) on the dependent variable (PDM), controlling for the mediator (PE).

Qualitative Online Forum Data

Research question 8 and 9. The data analysis was based on Richards and Morse's guide of qualitative data analysis (2007). For question 8, the discussion topics were focused on the contextual factors (work environment, gender and culture) related to nurses' work situation, the power difference and oppression experience. The content analysis focused on the work environment, gender, culture, power and oppression. For question 9, the discussion questions were mainly focused on nurses' experience of PDM. The content analysis therefore focused on decision making, policy making, administration, interaction, and communication.

The text-based data from the online forum was directly printed out. The researcher examined the transcripts, highlighted important passages, and coded transcripts line by line. During coding, the researcher wrote memos about the new discoveries or ideas developing from the data. The codes at first were written in Chinese. Then the codes were translated into English. The researcher searched for patterns among the codes. Through self-reflection, rational and intuitive comprehension, the codes with a similar conceptual linkage were grouped into one category. The categories were read, checked and compared to identify themes which connected the categories.

Rigor of the Study

To ensure the trustworthiness and rigor of this study (only the qualitative part), Lincoln and Guba's (1985) framework was used as the evaluation criteria. In this framework, Lincoln and Guba proposed four goals: (a) truth value, (b) applicability, (c) consistency, and (d) neutrality.

In quantitative methods, the four goals represent internal validity, external validity, reliability and objectivity, respectively (Lincoln & Guba, 1985). However, for

qualitative methods, validity means whether the findings are accurate from the standpoint of the researcher, the participant or the readers (Creswell, 2003). According to Lincoln and Guba (1985), there are four criteria in qualitative research: credibility, transferability, dependability and confirmability.

Credibility refers to the confidence that truthful findings will be produced (Lincoln & Guba, 1985). To prolong the engagement with the subject matter is the best way to establish credibility (Streubert & Carpenter, 1999). Although in online forum discussion, the researcher would not have the opportunity to observe participants, the virtual environment might provide more comfort to participants so that they could share more deep thoughts (Fawcett & Buhle, 1995). That was, participants in the online forum group would not feel pressured to be compliant with the group opinion. Thus the truth might be better reflected. Also, the discussion content was kept in a written format, and participants could access it anytime, which further prolongs the engagement and persistent observation (Kenny, 2005). Participants could edit their responses as needed after posting, which may further confirm that their meanings were captured. The researcher, as the online forum moderator, would frequently log into the website to see posts, or post responses to interact with participants or to clarify some meanings. The text-based discussion content, which was recorded free of transcription errors, would be printed out directly for data analysis. Through the multi-threaded discussion, it was easy to identify the sequence of participants' discussion in a group (Kenny, 2005). Transferability refers to generalization of findings, that is, the extent to which the findings have meaning to others in similar situations or can be applied to other settings or groups (Lincoln & Guba, 1985). In this study, the researcher would facilitate participants' involvement so that each of their voices could be heard. Participants who had agreed to

participate but did not actually respond to the discussion questions would get the reminding letter to encourage their participation. Through the increase of participation, the finding might be more representative of others in similar situations. However, according to Streubert and Carpenter (1999), whether the finding is transferable or not depends on the potential users of the findings, not the researchers.

Dependability is similar to consistency of the data (Lincoln & Guba, 1985). In this study, during data analysis, the researcher would read and re-read the transcripts to derive meaning from the data, and then do the line-by-line coding in Chinese. The coding would be reviewed three times to ensure the consistency of codes. The codes would be translated into English. Two graduate nursing students, bilingual in English and Chinese, would review the translation and ensure the accuracy of translation. The codes would be grouped into categories and themes. The rationale and researcher's thoughts would be documented in notes.

Confirmability refers to the objectivity of data which can be reached by the agreement of findings from another individual (Lincoln & Guba, 1985). According to Koch (1994), comfirmability requires one to show the way in which interpretation has been arrived at. In this study, as mentioned before, the researcher's thoughts would be documented in notes. Besides, another qualitative research faculty member would be invited to perform a peer review to see if an agreement on findings could be reached. Usually confirmability is established when credibility, transferability and dependability are achieved (Lincoln & Guba, 1985).

In summary, in this study, strategies for establishing the rigor in qualitative research included prolonged engagement, increasing participants' involvement, ensuring accuracy of translation, writing notes of researcher's thoughts and peer checking. These

strategies ensured the credibility, transferability, dependability and confirmability of the study.

Pilot Study

In this section, the purpose, theoretical framework, setting and sampling process, procedures, data analysis and findings of the pilot test are described. Based on the findings, some modifications were made for this study.

Purpose

The purpose of this pilot study was to explore the feasibility of an internet study among Taiwanese nurses, examine the reliability and validity of the internet versions of three instruments in Chinese, and explore the usability of online forum discussion topics. The specific aims of this pilot study were to:

1. Test the psychometric properties of Internet versions of three Chinese translated questionnaires including Nursing Work Empowerment Scale (NWES), Psychological Empowerment Instrument (PEI), and Decisional Involvement Scale (DIS).
2. Explore the usability of online forum discussion topics developed by the principal investigator on Taiwanese nurses' work environment, gender, culture and power, and participation in decision making.
3. Explore the potential and actual issues in internet research (e.g., technical issues and completeness).

Theoretical Background

In the pilot study, Taiwanese nurses' empowerment and the contextual nature were explored based on a feminist perspective and Laschinger's empowerment model.

Research Design

This pilot study was a cross-sectional and internet mixed-methods study which included an internet questionnaire survey (quantitative) and a web-based online forum (qualitative). The internet questionnaire survey contained demographic questions, and three Chinese versioned questionnaires including NWES, PEI and DIS. The online forum contained three main topics related to Taiwanese nurses' empowerment: work environment; gender, culture and power; and participation in decision making.

Setting and Sampling Process

There was no geographic setting in the pilot study. Taiwanese nurses were recruited through the researcher's personal network. Thirty-six Taiwanese nurses were recruited in the pilot study. They were selected based on the following criteria: (a) who are currently working in health care institutions for at least 3 months since in hospital the probation period usually is for 3 months (b) can read and write Chinese on the computer and (c) have access to the Internet. A convenient sampling method was used to recruit participants through e-mails. All participants in this study were voluntary. Incentives were provided.

Instruments

In the pilot study, three questionnaires were used, including psychological empowerment instrument (PEI), nurse work empowerment scale (NWES) and decisional involvement scale (DIS).

PEI was originally developed by Spreitzer (1995) to measure employees' perceptions of their work role. The total number of items in the English version of PEI is 12. The format of PEI is a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The Chinese version of PEI by Chen (2003b) was used.

NWES was developed by Laschinger, which included three scales: Conditions of Work Effectiveness questionnaire II (CWEQ II), Job Activity Scale (JAS), and Organizational Relationship Scale (ORS). The total numbers of items for CWEQ-II, JAS and ORS are 12, 3 and 4 respectively. The format of these three questionnaires is a 5-point Likert scale ranging from 1 (none) to 5 (a lot). The higher the score, the higher the level of structural empowerment. The Chinese version of NWES by Chen and Lin (2002) was used.

DIS was developed by Havens and Vasey (2005), which originally had six constructs: unit staffing, quality of professional practice, professional recruitment, unit governance and leadership, quality of support staff practice, and collaboration/liaison activities. In the pilot study, only five were included. The quality of support staff practice was deleted. The total number of items is 18 with a 5-point Likert scale ranging from 1 (only administrators/managers) to 5 (only nurses). The Chinese version of DIS was established in the pilot study. Detailed procedures for translation are presented in the procedure section.

Procedures of the Pilot Study

Translation. After the approval of translation was obtained from the original developer, the questionnaire DIS was translated and back-translated. The researcher and one bilingual Chinese who could speak and write in English and Chinese were invited to translate the questionnaire independently. The translator was instructed to focus on the connotative meaning instead of the direct translation of words. After translation, the researcher and the translator met together to discuss the differences of translation and obtain a consensus. Another two bilingual Chinese who had never seen or heard about the questionnaire were invited to back-translate the instrument from Chinese into English.

Later, the researcher and one native English speaker examined the original and the back-translated version of questionnaire by using a 3-point rating scale, where 3 indicated "exactly the same meaning in both versions," 2 indicated "almost the same meaning in both versions," and 1 indicated "different meanings in each version." Items that were rated as 1 point were excluded or reworded, whereas items that received scores of 2 or 3 points were retained.

Content validity. To estimate the content validity of the three questionnaires, a panel of 5 experts in Taiwan was asked to rate the relevance of each question, with each concept based on the content validity index (CVI) which was used to assess the level of agreement among experts (Streiner & Norman, 2003). Each expert was provided with a description of each concept and used a four-point scale to rate each question. On the scale, 1 indicated totally irrelevant and 4 indicated extremely relevant to the concept. To achieve consensus, the rating for each item should be greater than three.

Website set-up. A research website for the internet survey and online forum was set up in the Texas, United States. The questionnaires were uploaded onto the study website. The three main online forum discussion topics were posted one by one within a month (one topic per week).

Data collection. After the researcher finished the internet website testing, announcement of the study was sent out to friends and colleagues who had connections with nurses in hospitals through e-mails. When participants completed their first internet survey, an e-mail was sent out to thank them and remind them that two weeks later, they would receive another invitation for the re-test of the questionnaires. Thirty-six participants completed the first internet survey. Among them, twenty-one completed the internet survey twice in an interval of 2-3 weeks.

Among the participants who had completed the test and retest, fourteen showed that they were interested in the online forum. When the online forum website was set, an invitation letter was sent out to these participants for confirmation. Eight participants confirmed their participation. The login name, password, website link and simple instructions on how to post the messages were then sent to them. During the first week of the online forum, another two participants were invited because they just finished the internet survey and showed an interest in the forum. During the first week, six participants posted their messages. Each week one topic was posted and one e-mail was sent out to participants to announce the new topic. In the meantime, a reminding letter was sent out to participants who had not responded to the previous topic. After three weeks, only three participants completed the online forum. The retention rate was 30%.

Data Analysis

The quantitative data was analyzed by using SPSS. Descriptive statistics (means and standard deviation) was used for continuous variables, such as age and work experience. Frequency and percentage were used to describe the categorical data, such as education, nursing ladder, and work unit. The Cronbach's alpha coefficients were used to calculate internal consistency reliability, and Spearman rho correlation coefficients were used to examine test/re-test reliability of NWES, PEI and DIS.

Findings of the Pilot Study

Description of sample characteristics. Thirty-six Taiwanese nurses participated in the internet survey. The mean age of the sample was 27.72 years with a range from 20 to 37 (SD= 3.911). The average of working experience was 53.94 months, about 4.5 years. The levels of education were bachelor's degree (69.4%) and associate degree (30.6%). Almost all nurses were registered nurses (94.4%). The percentage of nurses with

nursing ladder N0, N1, N2, N3 and N4 were 5.9, 26.5, 44.1, 20.6 and 2.9 respectively. Among the participants, about 40% worked in the medical and surgical unit, and another 40% worked in the intensive care unit.

Translation and back translation. Two translators met together to discuss the meaning and wording of questions, and then made several minor changes. However, one item in DIS, "unit coverage," was not clear. After checking with English native speaker nurses, the meaning of this item was still not clear. PI sent an e-mail to the scale developer and clarified the meaning. The item was then translated as "nurse's manpower in the work unit." The back translated questionnaire was checked by another English native speaker nurse and all items were scored above 2.

Validity and reliability of the instruments. After receiving the scores and comments from five experts, the scores were calculated and the CVI was about 0.95. However, almost all experts pointed out that some items were redundant in the PEI Chinese versioned questionnaire, especially in the subscale meaning and influence. In the pilot test, these questions still remained. The decision for deletion was withheld until the results of the reliability test was available.

In addition, experts provided some suggestions for changing the wordings in some questions in PEI and NWES. For example, in NWES, one question "The amount of visibility of my work-related activities within the institution is", the visibility in Chinese was not clear. Experts questioned who saw the amount of work-related activities. Therefore, the wording changed to "The amount of my work-related activities within the institution can be seen by the supervisors". Several minor changes were made in the Chinese version of PEI and NWES.

Among the thirty six participants, twenty one completed the test and retest of the questionnaires. The Cronbach's alphas of NWES, PEI and DIS were 0.92, 0.83, and 0.92 respectively. According to Streiner and Norman (2003), the internal consistency should exceed .8. The three instruments met the criteria. The levels of test-retest reliability for NWES, PEI and DIS were 0.83, 0.68, and 0.75. For each subscale in NWES, opportunity, information, support, resource, JAS and ORS, the Spearman rho correlations coefficients were 0.80, 0.63, 0.72, 0.75, 0.64, and 0.58. The Spearman rho correlations coefficients for four subscales in PEI, competence, meaning, self-determination, and impact, were 0.77, 0.82, 0.60 and 0.73. The Spearman rho correlations coefficients for six subscales in DIS were 0.57 in unit staffing, 0.46 in quality of professional practice, 0.41 in professional recruitment, 0.65 in unit governance and leadership, and 0.33 in collaboration/liaison activities. The minimum acceptable test-retest reliability was 0.5 (Streiner & Norman, 2003). Although the Spearman rho correlations coefficients of three subscales in DIS were below 0.5, the overall test-retest correlation was 0.75. Therefore, the stability for each instrument was acceptable.

For PEI, three items were then deleted based on the results of item correlation, Cronbach's alpha if item deleted, corrected item-total correlation and expert's suggestions. The three items were in three different subscales (meaning, competence, and impact). After deletion of these three items, the total number of items in PEI was 9. The Cronbach's alpha became 0.80, which was still acceptable.

Measurement issue. The workload was measured by asking a question on the number of patients whom nurses were taking care of. However, without the information on patient's acuity, it was hard to standardize the actual workload. Based on this pilot

study, the workload was measured using a 0-100 scale question on nurses' self-perceived overall workload.

The feasibility of online forum discussion topics. After conducting a pilot online forum, the researcher looked through the participants' responses. Some questions were answered quite well. However, some questions were too abstract for the participants. Some were too directional. Therefore, some questions were revised for this study. For example, the question "why do you think nursing is a job that is mostly taken up by females?" was about Chinese traditional culture and gender stereotype. However, only one participant mentioned the possible reason for that. It seemed that "why" questions were too abstract for nurses. Hence, after the discussion with one qualitative researcher, the question was changed to "if you had a son, would you encourage or recommend him to be a nurse?" The revised English and Chinese versions of online forum discussion questions were presented in Appendix 11 and 12, respectively.

Technical problems. No participants complained that they could not locate the internet survey website or they had any loading problems. For the online forum, one participant complained that the forum design was not user-friendly. Another one mentioned that the messages she wrote disappeared after posting. Some who did not come to the website to post their messages mentioned they were too busy to post messages.

Based on the feedback from participants, for this study, the instructions for how to post messages were posted on the forum website as well as in the invitation letter. After the first week, the researcher sent out e-mails to inquire participants if they encountered any technical problems. If only a small number of participants came to the forum to post messages in the first week, the invitation would expand to other potential participants. If

the participants were too busy to post their responses, then the next topic would be held back for one more week. In the meantime, a second reminding letter would be sent out to participants who did not respond.

Summary

In this chapter, a feminist perspective and the use of mixed methods are discussed. The advantages and challenges of internet methods are reviewed. This study used a cross-sectional internet mixed method design to explore Taiwanese nurses' empowerment, PDM and the influence of contextual factors. Furthermore, the study setting, sample size, recruitment methods, protection of human subjects, data analysis, and rigor of the study are presented. Finally the results of the pilot study are reported.

Chapter 4: Results of Internet Quantitative Survey

The purpose of this chapter is to describe the results of the quantitative part of this study. First, the demographic characteristics of the sample are described. Second, the assumption testing for data analysis is provided. Last, the results for one hypothesis and research questions 1-7 are presented.

Demographic Characteristics of the Sample

The data collection of the quantitative website survey started from September to December, 2006. A total of 171 participants were recruited. Among those participants, three technical assistants, 1 part-time staff and 1 nurse with less than 3 months working experience were excluded because they did not meet the inclusion criteria. In addition, three outliers were excluded based on the scatter plots of correlations between the variables (SEP, PE and PDM). Therefore, the results of this study were based on a sample of 163 nurses.

Among the 163 Taiwanese nurses, the mean age was 31.24 (SD= 5.99), and ranged from 22-54. Most of participants were female (96.3%). The average years of working experience of the sample was 6.92 (SD= 6.28). Most participants were bachelor prepared nurses. The frequency with percentage of the educational level for master, college, institutional diploma and vocational high school were 22 (13.50), 111 (68.10), 28 (17.20) and 2 (1.20), respectively. About 61% (n=99) of participants worked as a registered nurse and approximately 66% (n= 108) worked in a medical center. About 25% of participants worked in a med/surgical unit and 22.1% in an intensive care unit. Most participants were within the nursing ladder N2-N3 (51%). The average of nurses

perceived working load (0-100 scale) was 72.09 (SD= 18.34). Table 2 showed the details of demographic characteristics of the participants.

Table 2: Demographic Data of the Internet Survey Participants (N=163)

	N (%)		N (%)
Sex		Age	
Male	6(3.70)	mean (SD)	31.24(5.99)
Female	157(96.30)		
		Working experience (years)	
Education		mean (SD)	6.92(6.28)
Vocational high school	2(1.20)		
Junior college	13(8.00)	Workload (0-100 scale)	
Two year college	15(9.20)	mean (SD)	72.09(18.34)
College	111(68.10)		
Graduate	22(13.50)	Work Title	
		Nurse	29(17.80)
Hospital		Registered nurse	99(60.70)
Local	6(3.70)	Nurse special practitioner	13(8.00)
Regional	25(15.30)	Head nurse	17(10.40)
Teaching	24(14.70)	Supervisor	2(1.20)
Medical center	108(66.30)	Director	3(1.80)
Work Unit		Nursing Ladder	
Med-surg	40(24.50)	N0	10(6.10)
Intensive care unit	36(22.10)	N1	33(20.20)
ER/OR	6(3.70)	N2	41(25.20)
Obs-ped	19(11.70)	N3	42(25.80)
Community	9(5.50)	N4	24(14.70)
Psychiatric unit	26(15.30)	HN	8(4.90)
Administration	25(15.30)	Director	3(1.80)
Missing	2(1.20)	Missing	2(1.20)

Note. Obs-ped represents obstetric and pediatric units. ER/OR = emergency room and operation room.

Assumption Check

Several assumptions for multiple regressions were checked, including normality and independence, multicolinearity and homoscedasticity (Munro, 2001). In the internet survey, the major variables included power factors, structural empowerment, psychological empowerment and participation in decision making. The assumption of normality was tested by examining the level of skewness and kurtosis of the frequency or descriptive data of major variables. Also the data were graphed in the histogram and Q-Q plot. Three categorical variables (type of hospital, work unit and nursing ladder) were collapsed into fewer categories for better normality. The level of skewness and kurtosis were checked and they were within the acceptable range (0.34-1.63).

The assumption of independence was checked by examining Durbin-Watson statistics. For structural empowerment regression model, the assumption of independence was met according to the Durbin-Watson statistics of 1.74, which was within the acceptable range of 1.5-2.5 (Norusis, 2004). For psychological empowerment regression model, the Durbin-Watson statistics was 1.91. For participation in decision making, the Durbin-Watson statistics was 1.80.

The assumption of multicolinearity was checked by examining level of tolerance and the variance inflation factor (VIF). For structural empowerment, the level of tolerance was about 0.38-0.88 and that of VIF 1.13-2.65. For psychological empowerment, the level of tolerance was around 0.38-0.88 and VIF was around 1.13-2.63. For participation in decision making, the level of tolerance was around 0.38-0.90 and VIF was around 1.11-2.65. The acceptable range for the level of tolerance should be greater than 0.10 and for VIF should be less than 10 (Munro, 2001; Norusis, 2004). Therefore, multicollinearity should not be a concern.

The homoscedasticity was checked by examining the plots of the studentized residuals and predicted values for the models of SEP, PE and PDM. The plots showed that the residuals were randomly scattered along a horizontal line through zero, which indicated that the assumption of homoscedasticity was met.

Research Question One

Descriptive statistics, including mean, and standard deviation were used to answer research question one: What is the level of Taiwanese nurses' structural and psychological empowerment? CWEQ was used to measure the level of overall structural empowerment (SEP). The mean and standard deviation of CWEQ were 12.35 (on the scale of 4-20) and 2.76, which showed that Taiwanese nurses had moderate level of SEP. For the four subscales of CWEQ, Taiwanese nurses had the lowest mean score on resource and information, and the highest score on opportunity. Regarding psychological empowerment (PE), the mean and standard deviation were 19.20 (on the scale of 4-28) and 3.42, which indicated that Taiwanese nurses had high-moderate level of PE. Among the PE subscales, the score of influence was the lowest and that of meaning was the highest. The results are shown in Table 3.

Furthermore, the level of SEP and PE were analyzed based on sex, education, type of hospital, work unit and nursing ladder. The mean and SD are shown in Table 3. For these categorical variables, the design was not balanced (the sample size in each group not balanced), which might violate the assumption of homogeneity of variance in ANOVA test. Therefore, the non-parametric Kruskal-Wallis (KW) on factor ANOVA was used to analyze the mean rank difference between groups except for the variable of sex. The KW results showed that SEP was significantly different among different types of hospitals ($\chi^2 = 6.01$, $p<0.05$) and work units ($\chi^2 = 23.71$, $p<0.001$). Participants who

worked in a Medical Center had a higher mean rank (87.27) on SEP than a teaching hospital (64.52). Nurses who worked as administrators and in special units had higher mean rank on SEP than those in an obstetric/pediatric (obs-ped) unit. The level of PE significantly differed among work units (χ^2= 10.17, p<0.05) and nursing ladders (χ^2= 9.61, p<0.05). Participants who worked in the administration area had the highest mean rank of PE than others. Nurses with a nursing ladder above N4 had the highest mean rank of PE. The KW test results are shown in Table 5.

Table 3: Descriptive Statistics of SEP and PE

Variables	n	Range	Mean	SD
SEP	161	4-20	12.35	2.76
Opportunity	163	1-5	3.44	0.75
Information	162	1-5	3.00	0.89
Resources	163	1-5	2.78	0.82
Support	161	1-5	3.14	0.78
PE	162	4-28	19.20	3.42
Meaning	163	1-7	5.28	0.97
Competence	162	1-7	5.09	0.85
Influence	163	1-7	3.91	1.35
Self-determination	163	1-7	4.96	1.11

Note. SEP=structural empowerment, PE=psychological empowerment.

Table 4: SEP, PE and PDM by Groups

		SEP		PE		PDM	
Variables	n	mean	SD	mean	SD	mean	SD
Sex							
Male	6	12.50	1.41	20.61	1.27	11.42	1.84
Female	149	12.37	0.22	19.22	0.28	10.94	0.28
Education							
Diploma	28	11.55	0.38	18.58	0.62	9.60	0.43
College	106	12.62	0.28	19.39	0.34	11.69	0.36
Graduate	21	12.25	0.45	19.62	0.64	9.10	0.43
Hospital							
Local & regional	29	11.72	0.37	18.63	0.59	9.64	0.35
Teaching	22	11.55	0.51	18.45	0.90	9.80	0.49
Medical Center	104	12.73	0.28	19.63	0.32	11.57	0.37
Work unit							
Med-surg	32	11.66	0.40	18.38	0.55	10.92	0.45
Special	40	13.33	0.52	19.38	0.62	12.39	0.67
Obs-ped	14	10.38	0.32	18.18	0.64	9.97	0.98
Com-psy	35	12.06	0.36	18.83	0.50	9.08	0.32
Administration	34	13.07	0.45	20.91	0.58	11.65	0.58
Ladder							
≦N1	41	12.53	0.49	18.26	0.52	10.33	0.52
N2	39	12.03	0.45	18.77	0.50	11.39	0.56
N3	41	12.30	0.31	19.90	0.51	11.07	0.52
≧N4	34	12.68	0.46	20.31	0.63	11.10	0.62

Note. SEP=structural empowerment, PE=psychological empowerment, PDM= participation in decision making; Special units include intensive care unit and emergency room; Obs-ped= obsteric and pediatric units; Com-psy= community care and psychiatric unit.

Table 5: Kruskal-Wallis Test on SEP, PE and PDM

	SEP			PE			PDM		
Variables	n	Mean Rank	$\chi 2$	n	Mean Rank	$\chi 2$	n	Mean Rank	$\chi 2$
Education	161		4.80	162		2.58	161		12.99**
Diploma	30	64.25		30	70.57		30	65.35	
College	109	84.55		109	82.60		109	90.02	
Graduate	22	86.25		22	90.91		22	57.64	
Hospital	161		6.01*	162		4.04	161		9.02*
District/ local	31	72.31		31	72.81		31	63.66	
Teaching	24	64.52		24	69.29		24	68.58	
Medical Center	106	87.27		107	86.76		106	88.88	
Work unit	159		23.71***	160		10.17*	159		23.42***
Med-surg	34	65.85		35	72.96		35	87.59	
Special	40	95.51		41	83.16		41	94.88	
Obs-ped	14	37.18		14	64.89		14	63.75	
Com-psy	35	77.96		35	71.63		35	50.49	
Administration	36	94.76		36	100.04		34	91.32	
Ladder	159		2.79	160		9.61*	159		3.40
≦N1	42	78.95		43	67.15		43	69.57	
N2	40	71.28		41	73.68		41	87.01	
N3	42	82.18		42	87.80		41	83.54	
≧N4	35	88.61		34	96.59		34	80.47	

*p<0.05, **p<0.01, ***p<0.001

Note. SEP=structural empowerment, PE=psychological empowerment, PDM=participation in decision making

Research Question Two

Descriptive statistics, including mean, and standard deviation was used to answer research question two: What is the Taiwanese nurses' actual and preferred level of PDM? DIS was used to measure the level of nurses' PDM. The mean and standard deviation of nurses' actual DIS were 11.00 (on the scale of 6-30) and 3.42. The lowest two areas of nurses' actual decisional involvements were professional recruitment and unit governance and leadership. The mean and standard deviation of nurse's preferred DIS were 13.84 and 3.60. The details of descriptive statistics of five DIS subscales are presented in Table 6. Also, the level of actual DIS were analyzed based on sex, education, type of hospital, work unit and nursing ladder. The mean comparisons were shown in Table 4. The KW test showed that the level of PDM significantly differed among the different levels of education (χ^2= 12.99, p<0.01), types of hospitals (χ^2= 9.02, p<0.05) and work units (χ^2=23.42, p<0.001). Detailed information is presented in Table 5.

Hypothesis One

Paired t-test (one-tailed) was used to test the hypothesis: Taiwanese nurses' preferred level of PDM is higher than their actual level of PDM. Alpha level was set as 0.05. The result showed that Taiwanese nurses' preferred level of PDM is higher than their actual level (t [158] = 11.95, p< 0.001). The data were used further to test the pair of each subscale. Except for collaboration/liaison activity, the preferred level of PDM in other subscales was significantly higher than the actual level of PDM. The results are showed in Table 6.

Table 6: Differences between Actual and Preferred PDM

		Actual DIS		Preferred DIS					
Variables	n	Mean	SD	Mean	SD	Mean difference	SD	df	t
Total	159	11.00	3.42	13.84	3.81	2.84	2.99	158	11.95*
Unit staffing	163	2.46	1.07	2.96	0.92	0.48	1.00	162	6.37*
Quality of professional practice	162	2.32	0.88	2.97	0.88	0.58	0.89	160	8.22*
Professional recruitment	161	1.40	0.89	2.07	1.06	0.68	0.87	161	9.87*
Unit governance and leadership	163	1.76	0.82	2.72	0.91	0.96	0.97	162	12.95*
Collaboration/liaison activity	162	3.08	0.87	3.16	0.71	0.07	0.69	161	1.52

*$p<0.001$

Table 7: Correlations between Major Variables

Variables	1	2	3	4	5	6	7
1 Age							
2 Education	0.21**						
3 Ladder	0.60**	0.38**					
4 Workload	0.13	0.03	0.06				
5 Experience	0.68**	-0.01	0.47**	0.05			
6 Teaching	-0.02	-0.06	-0.08	-0.04	-0.09		
7 Medical	-0.07	0.08	0.15	0.01	0.13	-0.58**	
8 Med-Surg	0.00	-0.03	-0.03	0.11	-0.07	-0.01	-0.01
9 Special unit	-0.17*	0.00	-0.18*	-0.04	-0.17*	-0.08	0.23**
10 Obs-ped	0.07	0.07	0.18*	-0.02	0.17*	-0.13	0.22**
11 Administration	0.35**	0.28**	0.52**	0.03	0.25**	0.03	-0.06
12 Formal power (JAS)	0.04	0.18*	0.16*	-0.28**	0.07	-0.05	0.08
13 Informal power (ORS)	-0.02	0.17*	0.07	-0.21**	0.01	-0.19*	0.20**
14 SEP	-0.03	0.12	0.06	-0.30**	-0.04	-0.17*	0.22**
15 PE	0.13	0.12	0.23**	-0.18*	0.15	-0.13	0.15
16 Actual DIS	-0.05	-0.02	0.05	-0.30**	0.02	-0.11	0.24**

*p<0.05, **p<0.01

Table 7 (Continued)

Variables	7	8	9	10	11	12	13	14	15
8 Med-surg	- 0.01								
9 Special unit	0.23**	- 0.30**							
10 Obs-ped	0.22**	- 0.16*	- 0.18*						
11 Administration	- 0.06	- 0.28**	- 0.31**	- 0.16*					
12 JAS	0.08	- 0.16*	0.09	- 0.14	0.24**				
13 ORS	0.20**	- 0.17*	0.10	- 0.19*	0.18*	0.70**			
14 CWEQ	0.22**	- 0.13	0.21**	- 0.22**	0.17*	0.78**	0.71**		
15 PE	0.15	- 0.11	0.03	- 0.09	0.23**	0.63**	0.62**	0.59**	
16 Actual DIS	0.24**	- 0.00	0.23**	- 0.09	0.10	0.47**	0.35**	0.50**	0.41**

*$p<0.05$, **$p<0.01$

Research Question Three

Bivariate correlation was used to answer research question three: What is the relationship between background factors and SEP; power factors and SEP; background factors and PE; backgound factors and PDM; SEP and PE; SEP and PDM; and PE and PDM? The Pearson correlation was used to analyze the relationship between variables. The variables of education and nursing ladder were treated as interval level data. Two other categorical variables, type of hospital and work unit, were then transformed to dummy codes. The background factors had a low level of correlation with SEP, PE and actual DIS. The details correlation coefficients were listed in Table 7. The background factors which were significantly related to SEP were type of hospital [teaching ($r = -0.17$, $p<0.05$), medical center ($r = 0.22$, $p <0.01$)] and work unit (special unit [$r =0.21$, $p <0.01$]), obstetric and pediatric units (obs-ped) ($r = -0.22$, $p<0.01$), and administration ($r = 0.17$, $p<0.05$)] and workload ($r = -0.30$, $p<0.01$).

The background factors which were significantly related to PE were work unit (administration [$r = 0.23$, $p<0.01$]), nursing ladder ($r = 0.23$, $p< 0.01$), and workload ($r = -0.18$, $p<0.05$). Age, education, and work experience were not significantly related to overall PE. However, if the subscales of PE were tested for the relationship with age, education, and work experience, the finding was slightly different. Age was significantly related to competence ($r = 0.23$, $p < 0.01$), education was significantly related to impact ($r = 0.17$, $p < 0.05$), and work experience was significantly related to meaning and competence ($r = 0.16$, $p < 0.05$ and $r = 0.19$, $p < 0.05$, respectively).

For actual DIS, the significantly correlated background factors included type of hospital [medical center ($r = 0.24$, $p<0.01$)], work unit (special unit [$r = 0.23$, $p<0.01$]) and workload ($r = -0.30$, $p<0.01$). Power factors were highly positively correlated with SEP, for formal power and SEP ($r = 0.78$, $p<0.01$), for informal power and SEP ($r = 0.71$, $p<0.01$). SEP was moderately

correlated with PE (r = 0.59, $p<0.01$). SEP and PE were positively correlated with actual DIS, for SEP and DIS (r = 0.50, $p<0.01$), for PE and DIS (r = 0.41, $p<0.01$).

Research Question Four

The multiple regression analysis was used to answer research question four: Which factors predict Taiwanese nurses' SEP? Variables chosen into the regression model were based on the conceptual model and the significance of relationship with SEP. The normality of variables was examined previously. The background factors, including age, education, nursing ladder, years of working experience, workload, the dummy codes of types of hospital (teaching hospital and medical center) and work unit (special, obs-ped and administration) were entered into block 1 (model 1). The power factors, formal (JAS) and informal power (ORS) were entered into block 2 (model 2). In model 1, workload, type of hospital (medical center) and work unit (obs-ped and administration) were significant predictors of SEP. The model 1 accounted for 21.6% of the variability in SEP (R^2= 0.27, adjusted R^2= 0.22, F[10, 147] = 5.32, $p<0.001$). When JAS and ORS were added, the R square increased by 0.44 in model 2, which explained the 68.2% of variability in SEP (R^2= 0.71, adjusted R^2= 0.68, F[12, 147] = 29.01, $p<0.001$). However, in model 2, workload was not a significant predictor anymore. Results are shown in Table 8.

Research Question Five

The multiple regression analysis was used to answer research question five: Which factors predict Taiwanese nurses' PE? Variables chosen into the regression model were based on the conceptual model. The background factors, including age, education, nursing ladder, working experience, workload, types of hospital (teaching and medical), work unit (special, obs-ped, and administration), were put into model 1. Then SEP was added into model 2. The model

1 explained 10.6 % of variability of PE (R^2= 0.16, adjusted R^2= 0.11, F[10, 147]= 2.87, p<0.01). Workload was a significant predictor (B= -0.04, beta= -0.21, t = -2.80, p<0.01). However, in model 2, only SEP was a significant predictor. Workload became not significant. Model 2 accounted for 36.1% of variability of PE (R^2= 0.41, adjusted R^2= 0.36, F[11, 146]= 9.06, p<0.001). The results are shown in Table 9.

Research Question Six

The multiple regression analysis was used to answer research question six: Which factors can predict Taiwanese nurses' actual level of PDM? Variables chosen into the regression model were based on the conceptual model. The background factors, including age, education, nursing ladder, working experience, workload, types of hospital (medical center), work unit (special unit), were put into model 1. Then SEP and PE were put into model 2. In model 1, workload, medical center and special unit were significant predictors of PDM and they accounted for 15.4% of the variability in PDM (R^2= 0.19, adjusted R^2= 0.15, F[7, 149]= 5.06, p< 0.001). The work unit (special unit) had a higher unstandardized coefficient (B= 1.56) and a standardized coefficient (beta= 0.20) than type of hospital (medical center) (B= 1.35, beta= 0.19). Model 2 explained about 30.9% of the variability of PDM (R^2= 0.35, adjusted R^2= 0.31, F[9, 147] = 8.74, p<0.001). Two variables were significant predictors of PDM, workload (B= -0.04, beta= -0.19, t = -2.76, p< 0.01) and structural empowerment (B= 0.39, beta= 0.31, t= 3.43, p< 0.01). Detailed results were presented in Table 10.

Table 8: Hierarchical Multiple Regression of Predictors on SEP

Model	Predictors	B	SE	β	t	R^2	Adj R^2	R^2 Δ
1	(Constant)	13.91	1.58		8.80	0.27^{***}	0.22	0.27^{**}
	Age	0.01	0.05	0.03	0.23			
	Education	0.28	0.39	0.06	0.72			
	Ladder	-0.01	0.27	-0.00	-0.04			
	Experience	-0.00	0.00	-0.06	-0.61			
	Workload	-0.05	0.01	-0.31	-4.33^{***}			
	Teaching	-0.67	0.68	-0.09	-0.98			
	Medical	1.19	0.57	0.20	2.07^{*}			
	Special	1.00	0.51	0.16	1.94			
	Obs-ped	-1.94	0.81	-0.19	-2.40^{*}			
	Administration	1.31	0.62	0.20	2.13^{*}			
2	(Constant)	5.04	1.23		4.12	0.71^{***}	0.68	0.44^{***}
	Age	0.04	0.03	0.10	1.30			
	Education	-0.20	0.25	-0.04	-0.79			
	Ladder	-0.09	0.17	-0.04	-0.53			
	Experience	-0.01	0.00	-0.13	-1.92			
	Workload	-0.01	0.00	-0.09	-1.95			
	Teaching	-0.33	0.44	-0.04	-0.74			
	Medical	0.82	0.37	0.14	2.22^{*}			
	Special	0.52	0.33	0.08	1.57			
	Obs-ped	-0.83	0.53	-0.08	-1.59			
	Administration	0.29	0.40	0.05	0.73			
	JAS	1.68	0.21	0.56	8.19^{***}			
	ORS	0.94	0.26	0.24	3.55^{**}			

$^{*}p< 0.05$, $^{**}p< 0.01$, $^{***}p<0.001$

Table 9: Hierarchical Multiple Regression of Predictors on PE

Model	Predictors	B	SE	β	t	R^2	Adj R^2	R^2 Δ
1	(Constant)	20.12	2.13		9.47	0.16**	0.11	0.16**
	Age	-0.01	0.07	-0.02	-0.16			
	Education	0.09	0.53	0.01	0.16			
	Ladder	0.46	0.36	0.15	1.28			
	Experience	0.00	0.00	0.09	0.77			
	Workload	-0.04	0.02	-0.21	-2.80**			
	Teaching	-0.58	0.91	-0.06	-0.64			
	Medical	0.88	0.77	0.12	1.16			
	Special	0.37	0.69	0.05	0.55			
	Obs-ped	-1.66	1.05	-0.04	-1.58			
	Administration	1.32	0.83	0.16	1.59			
2	(Constant)	10.32	2.20		4.69	0.41***	0.36	0.24***
	Age	-0.02	0.06	-0.04	-0.35			
	Education	-0.15	0.45	-0.02	-0.33			
	Ladder	0.49	0.30	0.16	0.61			
	Experience	0.01	0.00	0.12	0.29			
	Workload	-0.01	0.01	-0.06	-0.82			
	Teaching	-0.10	0.77	-0.01	-0.13			
	Medical	0.06	0.66	0.01	0.10			
	Special	-0.36	0.59	-0.05	-0.62			
	Obs-ped	-0.17	0.90	-0.01	-0.19			
	Administration	0.44	0.71	0.05	0.63			
	SEP	0.72	0.09	0.57	7.72***			

** $p < 0.01$, *** $p < 0.001$

Table 10: Hierarchical Multiple Regression of Predictors on PDM

Model	Predictors	B	SE	β	t	R^2	Adj R^2	R^2 Δ
1	(Constant)	14.10	1.97		7.15	0.19***	0.15	0.19***
	Age	-0.01	0.07	-0.01	-0.08			
	Education	-0.44	0.50	-0.07	-0.87			
	Ladder	0.37	0.32	0.11	1.16			
	Experience	0.00	0.01	-0.01	-0.08			
	Workload	-0.06	0.01	-0.31	-4.11***			
	Medical	1.35	0.59	0.19	2.27*			
	Special	1.56	0.62	0.20	2.53*			
2	(Constant)	5.92	2.29		2.58	0.35***	0.31	0.16***
	Age	-0.02	0.06	-0.03	-0.25			
	Education	-0.63	0.46	-0.10	-1.38			
	Ladder	0.23	0.29	0.07	0.79			
	Experience	0.00	0.01	0.01	0.05			
	Workload	-0.04	0.01	-0.09	-2.76**			
	Medical	0.79	0.55	0.11	1.45			
	Special	1.11	0.57	0.14	1.97			
	SEP	0.39	0.11	0.31	3.43**			
	PE	0.17	0.09	0.17	1.98			

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

Note. SEP=structural empowerment, PE=psychological empowerment, PDM=participation in decision making

Research Question Seven

Multiple regressions were used to answer research question seven: Does PE mediate the relationship between SEP and PDM? Three regression equations were tested for statistical significance of a mediator effect based on Bennett's suggestions (2000). The results in Model 1 showed that SEP was a significant predictor (independent variable) of PE (mediator), (*B*= 0.75, beta= 0.59, t = 9.06, p<0.001). In Model 2, SEP was a significant predictor of PDM (dependent variable) (*B*= 0.64, beta= 0.50, t= 7.27, p<0.001). In Model 3, both SEP and PE were significant predictors of PDM (see Table 11). The result showed that PE partially mediated the relationship between SEP and PDM.

Table 11: Regression Models for the Mediation Test

Model	Variables	B	SE	β	t
1	(constant)	10.01	1.04		
	SEP	0.75	0.08	0.59	9.06**
2	(constant)				
	SEP	0.64	0.09	0.50	7.27**
3	(constant)	1.36	1.39		
	PE	0.18	0.09	0.18	2.09*
	SEP	0.51	0.11	0.40	4.73**

*p<0.05, **p<0.001

Note. The dependent variable in Model 1, Model 2 and Model 3 was PE, PDM and PDM, respectively.

The Sobel's test was also used to test the indirect effect. The result showed that the total effect of SEP on PDM was statistically different from zero (t = 7.27, p< 0.001). The effect of SEP on PE was statistically different from zero (t = 9.07, p< 0.001). The effect of PE on PDM

while controlling for SEP was statistically different from zero (t = 2.09, $p < 0.05$). The direct effect of SEP on the PDM while controlling for PE was statistically different from zero (t = 9.07, $p < 0.001$). The finding indicated that the relationship between SEP and PDM did exist after controlling for PE. In other words, PE did not fully mediate the relationship between SEP and PDM.

Summary

Taiwanese nurses had moderate level of structural empowerment (SEP). They had lower level of SEP on resource and information. SEP was significantly correlated with type of hospital, work unit, workload and power factors (formal and informal). Only types of hospital and power factors were significant predictors of SEP. Regarding psychological empowerment (PE), Taiwanese nurses had high-moderate level of PE, especially in the aspect of work meaning. However, they had the lowest level of PE in influence. PE was significantly correlated with work unit, nursing ladder and workload. Only SEP was a significant predictor of PE. Regarding PDM, Taiwanese nurses had low level of PDM, especially in the area of unit governance and leadership. PDM was significantly related to types of hospital, work unit, workload, SEP and PE. Only workload and SEP were significant predictors of PDM. Also PE partially mediated the relationship between SEP and PDM.

Chapter 5: Results of Online Forum Qualitative Study

The purpose of this chapter is to describe the qualitative results of this study. First, the demographic characteristics of the online forum participants are described. Then, the themes for research questions 8 and 9 are presented with quotes. The overall themes for research questions 8 and 9 are "foot-binding unto nursing" and "not open up," respectively. More detailed descriptions are presented in the following sections.

Demographic Characteristics of the Sample

After completing the Internet survey, a total of 119 participants agreed to participate in the online forum. These participants were contacted in October, 9, 2007 for reconfirmation. Forty-eight participants confirmed their participation, and 30 were selected for the online forum. The online forum started in the middle of October and ended at the end of November 2007. In the first week, 24 nurses participated in the forum. By the end, 20 nurses had completed all three topics. The retention rate was high (83%), and the total number of posts was 123. Most participants only posted one message per topic. The length of each post was from 5 to 30 lines.

Of the 24 participants, most (95.8%) were female. The mean age was 33.5 years (SD = 5.79), and the average years of working experience was about 8 years (SD= 6.76). Approximately 71% of participants had a bachelor degree, and 62.5% worked in a medical center. Most participants were in nursing ladder N2–N3. About 37.5% of participants worked in the med-surgical unit and about 17% in intensive care units. The average workload level was about 77 (SD= 18.53) (on a scale of 0–100). Other details are presented in Table 12.

Table 12: Demographic Data of the Online Forum Participants (N = 24)

	N (%)		*N* (%)
Sex		Age	
Female	23(95.80)	Mean (SD)	33.50(5.79)
Male	1(4.20)		
		Working experience (years)	
Education		Mean (SD)	8.03(6.76)
Vocational high school	1(4.20)		
Junior college	1(4.20)	Workload (0–100 scale)	
Two-year college	1(4.20)	Mean (SD)	77.00(18.53)
College	17(70.80)		
Graduate	4(16.70)	Work Title	
		Nurse	3(12.50)
Hospital		Registered nurse	16(66.70)
Local	1(4.20)	NSP	3(12.50)
Regional	6(25.00)	Head nurse	1(4.20)
Teaching	2(8.30)	Director	1(4.20)
Medical center	15(62.50)		
Work Unit		Nursing Ladder	
Med-surg	9(37.50)	N0	1(4.20)
Intensive care unit	4(16.70)	N1	2(8.30)
Emergency room	1(4.20)	N2	8(33.30)
Obs-ped	2(8.30)	N3	7(29.20)
Community	3(12.50)	N4	4(16.70)
Psychiatric unit	2(8.30)	HN	1(4.20)
Administration	2(8.30)	Director	1(4.20)

Note. "Med-surg" represents medical and surgical units. "Obs-ped" represents obstetric and pediatric units. NSP represents nurse special practitioner

Research Question Eight

In the online forum, discussion topics 1 and 2 were designed for answering research question 8: How do Taiwanese nurses perceive their work environment within the context of gender, culture, and power? Although topic 3 was more related to participation in decision making (PDM), it is also part of nurses' work environment. Therefore, all three topics were included for coding. The content analysis focused on the work environment, gender, culture, power, and oppression. The categories and transcripts were read and reread. The overall theme was foot-binding unto nursing.

Food-binding was an old tradition in ancient China and was only done among females. Females with beautiful, small feet were favored in marriage and could advance their social status (Hong, 1997). However, the deformed feet prevented females from walking far or running. They became more vulnerable and dependent on males. However, the term *foot-binding* here is not used to represent the image of beauty but the restraints and pain that females suffered.

Under the overall theme, three subthemes were found: (a) stereotypes, (b) low social status, and (c) conflicts among nurses. The subtheme "stereotypes" includes the reasons nursing was like being foot-bound. The two other subthemes, low social status and conflicts among nurses, represented the current situations/consequences of "foot-binding" in nursing. The descriptions and quotes are presented below.

Subtheme 1: Stereotypes

A stereotype is a fixed idea that people have about what someone or something is like. In this forum, participants felt that the society, physicians, and patients held certain ideas regarding nursing, which in turn created some misconceptions about and hindered the growth of nursing. In Chinese society, "sex and value influenced nurses' fate." Several participants mentioned that

in traditional society, females were mainly responsible for filling the role of caregivers. Even in the clinical area, "female nurses are more acceptable by patients' families." One participant said,

> In the past, people said that it was good for girls to learn nursing because they could easily find a job. When they were getting married, they knew how to take care of parents-in-law. Then my husbands' friends told him that he was lucky to have a wife as a nurse to take care of him…. So in the traditional view, females are mainly the caregivers…. Female nurses are more acceptable by patients' families.

Most participants mentioned that they did not want their children to become nurses, unless their children insisted on it, because being a nurse was hard work. Several participants mentioned that it would be OK for their sons to enter nursing, but they would encourage their sons to work toward the administrative positions because male nurses have better characteristics to be administrators. One participant mentioned,

> If it is my son to enter nursing, I would like him to work toward the administration position. I think the current nursing administrators do not have the creative or future-oriented insight thinking. So … if he can better use his male characteristics, then he will do a good job in the nursing career.

However, another participant was strongly against the idea of her son entering nursing. In this participant's view, people generally thought of nursing as female's work and did not consider it a profession. It would be hard for the general population to accept the concept of a male being a nurse.

> If my son wished to be a nurse, I would be against it because of the low identity of the nursing profession in Taiwan. I remember when I was taking a flight, one university professor was surprised that I was reading the textbook of physiology. He did not understand why nurses studied such a professional thing…. He thought nursing was just

> a subprofessional occupation. In this way, you could imagine how others…, the general population, would see nursing. I would be afraid that my neighbors would keep asking me why my son studied nursing. So…I am against it…against it.

According to participants, in the health care system, the idea that nurses were the subordinates of physicians still existed. Females were expected to take the role of caregivers and the role of assistant. The contributions of "the assistants" would generally not be recognized and would usually be taken for granted. One participant said,

> Regardless of work, family life, or social status, female sacrifice is taken for granted. [People think] it is good for females to be nurses. The old health care concept still exists in Taiwan that only physicians are the key persons for healing; other health care providers are physicians' subordinates.

Subtheme 2: Low Social Status

Participants thought that a nurse's work content was not distinct from that of other service work. The role of assistant reinforced the image of nursing being a nonprofession. Hence, society did not value nursing as a profession and relegated nurses to a lower social status. One participant stated, "The work content of nurses somehow has similarities to that of a waiter. Whenever a patient rings a bell, you have to show up. The status of nurses is low." Another said, "Society values the airplane stewardess's profession much higher than nurses."

The social status of nurses was very different from that of physicians. Most participants had the feeling that "physicians are the masters, patients are the guests, and nurses are maids." In this statement, three different situations were presented: physicians' power, nurses' low social status, and patients' demands. About physicians' power, one participant said,

> The health care resources and the policy making are mainly controlled by physicians. The management authorities of hospitals are also in physicians' hands. Therefore, their

power and resources become more and more. Although nurses make up the majority in the health care system, their rights are to be sacrificed easily.

Several participants said that physicians controlled the administration positions in hospitals and therefore controlled the budget for nursing staffing. They were the persons who decided how nurses did their work. With the increased workload and decreased nursing staffs, nurses felt they did not have control over their practice. One participant mentioned the frontline nurses' helplessness:

> Hospital administrators …, after the calculation of cost effects and financial conditions, actually … let nurses become the primary sacrifice. With the shortage of nursing staffs and heavy workload, a lot of nurses choose to leave their jobs and this … makes the working situation worse. The first line nurses are helpless.

Another participant stated,

> Because of the high turnover rate, the need for enough staffing usually is not satisfied. Sometimes several new nurses work together. It is hard to function well. With the increased patient-nurse ratio, the nursing hours for each patient are significantly decreased.… The infection rate and mortality rate are increased, but the authorities do not pay attention to this.

Most participants described how patients treated physicians and nurses differently. They said that patients treated physicians with respect but sometimes treated nurses in ways based on their own emotions. This kind of different treatment from patients further reinforced the power differences between physicians and nurses. One participant said,

> Generally, in Taiwan society, the status of physicians is sky high. Nurses are just high-class maids. Patients' attitudes toward physicians and nurses are different. Patients do

not pay attention to what nurses say. However, if the same words come from a physician's mouth, patients will follow.

Another participant mentioned some patients' attitudes toward nurses:

> People usually demand a lot of nurses. No matter whether it is a small thing or a big issue, nurses are the first people they look for. Hence, sometimes nurses become the persons who are always being complained to. Whenever patients or families feel discontented …, they always give vent to nurses' spleen. I think this kind of situation will not be changed in the near future.

By assigning nurses to the role of assistants, society expected that nurses should be obedient and follow physicians' orders. Most participants mentioned that society expected them to tolerate all the work and demands from physicians and patients without considering themselves. One participant said, "Under the traditional concept that physicians are superior and nurses are inferior, it's hard for nurses to become autonomous. We always need to follow the orders."

Another participant mentioned the unbearable demands from the society and patients:

> People think that nurses should be kind and patient. Nurses should tolerate all the unreasonable and unjust demands and behaviors from patients and families. However, nurses are neither Florence Nightingale nor Buddha. They are just like other ordinary women. They have their own emotions and self-esteems. The stress that nurses bear from the society can only be tolerated by God.

Oftentimes, even though nurses made sacrifices at their workplaces, their sacrifices did not get any recognition and were not appreciated. Most participants mentioned that their sacrifices were taken for granted without any rewards being offered. Two participants mentioned that they received no financial reward for their hard work, saying, "Nurses always

work overtime, but they cannot file for the overtime pay," and "If the salary could be much more, then I would not feel that I am high-class-but-cheap labor."

Another participant mentioned that there was no appreciation from the superiors in hospitals: "No matter what the reason is for working overtime, the superiors always contribute the problem to nurses' incapability."

Two other participants stated what their expectations were toward their superiors. One said, "The most important thing is whether the superiors put nurses' needs and ideas in their mind and incorporate that into the process of decision making or not." The other said, "A lot of demands are made.… When facing this kind of situation, nurses would like the superior to send caring regards and thoughtful greetings."

The attitudes of administrators and society in taking nurses for granted sometimes made nurses resign themselves to their working situation. One participant said, "In Taiwan society, as a female nurse, there is nothing else you can choose to do except to bear all these things silently unless you do not want to work as a nurse anymore." Another said,

> For me, being a nurse means that I have to put away my pride and personal attitudes. Sometimes I work over 10 hours a day. When I get home, it is already 7 or 8 p.m. After I have a dinner or take some rest, it's already 10 p.m. Nurses in Taiwan have a lot inexplicable pain.

However, some nurses tried to find meaning in their work so that they could continue to work as a nurse, even though the sacrifice was often inseparable from their work. One participant stated,

> In Taiwan, if you want to be a nurse, you should have the heart of sacrifice; otherwise it would be hard. For me, every time a patient calls out, "Nurse, nurse, come to help me,"

> … when I can ease their pain …even though the reward might be just a smile, it can make me feel the value of being a nurse.

Subtheme 3: Conflicts among nurses

"Conflicts among nurses" represents the conflicts and negative attitudes among nurses. Because nurses tolerated a heavy burden at work, some of them developed an attitude of "the daughter-in-law becoming mother-in-law," which implies that once the powerless people get power, they become the oppressors. Several participants mentioned that this kind of attitude created a lot of problems at work because nurses gave one another a hard time. One participant said,

> In these years, I have found that all the turmoil in the clinical area comes from the attitude of "the daughter-in-law becoming mother-in-law." People forget to change their thinking angle and to consider others. No matter whether you are a senior nurse, a junior nurse, an administrator, a patient, or a family member, if you can see things through others' eyes, then that will make things a lot easier. Also, you will not become narrow-minded or picky on those little tiny things.

Another participant stated,

> The high-level nursing persons do not pay attention to those issues [nursing manpower and quality of care]. They always have the battle of "women give other women a hard time." They are always busy consolidating their power and positions.

The conflicts among nurses sometimes resulted not only from the tension between the administrators and staff nurses but also from that between the sexes. Traditionally, males were considered to be the ones with good rationality and judgment. Male nurses were favored for working in administrative positions or in special units. However, two participants thought that if

male nurses did not have male-specific characteristics, then they would be disliked. One administrator mentioned the advantage of male nurses:

> I know there are several low-level male administrators. You seldom hear them complain about how hard their work is, how people don't respect them, and such.…They usually confine the discussion to the matter at issue. They face problems and try to resolve them. They will not put their attention on the little things or emotions. Whenever they get opportunities, they will just take advanced courses to flesh themselves out without arguing about whether the hospital supports them with money/time or not.

Two other participants mentioned the male nurses' situation. One said,

> I think if males enter nursing, they will be favored. However, if the male nurse does not work hard enough or he is just being a coward, he will be teased and bullied. If he can act aggressively, speak out for others, and help others, then he will be well liked.

The second one said,

> Sometimes I feel "suffocated," you know, … [as] a man working in a group of females. Sometimes people treat you as if you are valuable. However, sometimes they treat you like you are shit.… I have to learn how to live in a small crack and to find a way out.

Head nurses, as the low-level administrators, sometimes became the middle persons between high-level administrators and staff nurses. Several participants mentioned the tensions among the three levels. One participant said,

> Head nurses are just the low-level administrators. In this position, they need to face both staff nurses and high-level administrators in the hospital. It is really difficult for them to do things perfectly so that they will not offend the high-level persons and at the same time convince the staffs to do things willingly.

Another stated,

> Head nurses are the middle persons between superiors and staffs. Superiors wish for staff nurses to carry out orders or take many demands with no mistakes. On the other hand, staff nurses wish to get the adequate manpower in the work unit.

Research Question Nine

In the online forum, discussion topic 3 was also used to understand research question 9: What is Taiwanese nurses' experience with participation in decision making (PDM)? Because PDM was influenced by nurses' work environments, the data analysis actually includes all three topics together. The analysis focused on decision making, policy making, administration, interaction, and communication. The overall theme was "not open up" which represented that the information did not flow well among nurses. There were two subthemes: centralization and indirectness, which represented the nontransparent process of decision making within the centralized style of administration and the indirect communication between nurses.

Subtheme 1: Centralization

In this forum, most participants, except for administrators, did not have much experience with PDM. They did not know how the top-level administrators made decisions because the process was not transparent and the administration style was mainly centralized and bureaucratic. Usually, superiors made the decisions, and then the staff nurses were just told to follow the decisions, regardless of their opinions. One participant stated, "The decision-makings mainly are done by the superiors in the nursing department or in other departments. The things decided by them are given to us, and we are asked to carry them out. They never ask our opinions." Another said,

> The superiors decide what a policy is. The head nurses will distribute this policy to staff nurses. Even though nurses might have different opinions, they cannot reject the policy. Head nurses will discuss it with each group leader and then divide the work.

Due to the lack of transparency in decision making, participants frequently mentioned the problems of policies' being inapplicable in the clinical area and policy inconsistency, which in turn created more confusion. Sometimes the miscommunication occurred during the policy distribution, which created more conflicts between superiors and the frontline nurses:

> The superior people with very high pay usually give out orders, and the inferior staffs should just follow. The problem is that the policies are not consistent and keep changing all the time. It is so confusing [to determine] which policy is the newest. Sometimes because of not knowing what the new policy is, the superior will blame the staffs. It is really inexplicable.

Another participant said,

> There was one time that the quality control nurses evaluated the execution of a new policy and found out that frontline nurses in one unit carried out the policy wrongly. The reason was that head nurses distributed the policy wrongly. Although the mistakes were corrected, the staff nurses were not informed of the reasons for such mistakes. The staff nurses then questioned why the policy changed again and why superiors did not understand that the wrong policy makes all nurses' work become in vain.

According to participants, although they did not have the opportunity to participate at the hospital level decision makings, sometimes staff nurses were involved in the unit-level decision makings by voting on the decisions. One participant said, "The unit level decision makings usually were done in the unit meeting by most staff nurses."

However, sometimes the decision making options were screened first by the head nurses or leaders. Some participants actually did not have the opportunity to be involved in the unit-level decisions. According to participants, the head nurses were the people who decided the level of nurses' involvement and made the final decisions. One participant said, "I joined the

nursing research team. Even though I joined this team, it does not mean that I have the opportunity to participate in decision making. Usually the team leader will screen the options and make the final decisions." Two other participants agreed, stating,

> The decision making in the work unit is mainly centralized.… The head nurse will only listen to several core staff members' opinions. She seldom listens to the majority of staff nurses. Actually, most nurses do not provide opposing opinions due to the fear of the powerful person.

and

> Although sometimes a meeting will be held to discuss the issues in the unit, the final decision maker is still the head nurse. The suggestions provided by staff nurses are only for reference. Staff nurses do not really have the power to participate in decision making.

The administration styles of nursing superiors determined participants' attitudes about PDM. If the superiors were open-minded and could accept the staff nurses' opinions, then the staff nurses would feel they were appreciated and could make contributions to their work. However, if the superiors could not accept the staff nurses' opinions or even gave them a hard time, then nurses would become silent. The fear of being rejected, isolated, or blamed had sealed nurses' mouths. Also, several participants mentioned that they kept silent because they did not want to destroy the harmony in the workplace or get into trouble. Two participants mentioned administrators' attitudes. One said,

> What makes me feel bad is that most of time the superiors do not value staff nurses' opinions. We are the persons who are close to physicians and patients. However, when they are making decisions, they usually ignore our voices. Even though we have some ideas, we cannot express them. In the superiors' minds, if you have too may opinions, you are segregated from a group. You are a person who always expresses an opposing

> view.… Then why would staff nurses dare to express their opinions? Over a long period of time, a lot of people gradually choose to keep silent.

Another stated,

> Only a few administrators can accept their subordinates' suggestions. Most administrators are autocratic. They just want staff nurses to be obedient. The creativity of a subordinate is not important at all. So … right now when I face any problems, if possible, I will choose to be silent.

Subtheme 2: Indirectness

According to participants, the communication style among nurses was indirect due to the fear of getting into trouble. For most of them, it was better to be silent than to speak up, two other participants offered their thoughts. One said, "I usually bear [the unfair thing] silently because I am afraid that if I speak up for myself, I might destroy the atmosphere at work. Sometimes I will try to speak up very indirectly." The second participant said, "Everybody is afraid of getting into trouble so no one dares to express opinions or make suggestions unless the superior asks them to do so. Otherwise, no one will aggressively express things."

Because most participants were powerless in PDM, they learned that they could not just provide their own suggestions openly or directly without privately consulting others' opinions in advance. If they wanted to do something differently or initiate some change, they needed to discuss this issue with other nurses or the administrators privately before bringing the issue up in a meeting. With the common consensus, staff nurses might have the courage to speak out. Regarding this, one participant said, "Usually I will discuss issues with co-workers first and wait for the final best results. Then I will communicate with the head nurse." Two others expressed similar thoughts. One said, "If I wish the unit to have some changes, I will discuss this with the

head nurse privately… or I will first discuss this issue with other staff nurses privately. After that, we can send out our representative to the administrators." The other said,

> If I wish something to be changed in the work unit, I will discuss it with coworkers first. Sometimes they already have had some ideas in mind. They just hide it. Also, I will consider the situation. If most people agree [with the change], then I will talk with the team leader and ask her to discuss it with the administrators.

Furthermore, the communication between nursing leaders and lower-level nurses was not effective. Most participants did not know what the nursing organizations or institutions were doing. They did not think those nursing institutions made any contributions to the improvement of nurses' work environment. One participant said,

> The nursing institutions and associations were always in certain powerful persons' hands. However, I never saw any specific events to show that these persons speak out for nurses' rights. Anyway, if you stay longer in nursing or you see through more things, then you will be more disappointed.

Another stated,

> I always feel that nursing institutions and associations should have a better function. Although the powerful persons in the nursing institutions and associations usually hold two or more jobs concurrently, the most important thing is that they should not yield nurses' rights just because of the stress to fulfill the calling of nursing.

Due to the lack of opportunity for participants to be involved in the higher level of decision making in the health care system, nurses started to be aware that they should unite together to fight for their rights, not waiting for others to give them attention. Even though they were silent at the present moment, they started to consider that nurses should stand up for themselves. Regarding this, one participant said,

> There is no need for nurses to act graciously. We should speak out when we fight for our rights. If we act too gently and humbly, the society will not face our needs. The working situation will just get worse and worse. The world is changing. Only when we fight firmly can we have the rights we need. We need to know how to use commercials to inform society of the importance of nursing. We cannot expect that if we behave obediently, people will recognize us.

Another said,

> Nursing needs respect and valuation from the society. We cannot just stay at home to shout the slogans. We need to stand up to use effective communication channels to introduce our profession. In this way, others can recognize and identify our professional work.… Only we can find a way to speak out for nursing; otherwise, nurses' work and rewards will never be balanced.

Summary

According to participants, nurses' working situations were mainly influenced by the stereotype of gender roles in society. Due to the stereotype, nurses' work was not highly valued and was often taken for granted by society, physicians, and superiors. Nurses felt that their social status was low and that their work environment was getting worse and worse. Furthermore, the information flow and interaction among nurses were not adequate, resulting in a gap between superiors and subordinates. The autocratic leadership prevented nurses from speaking for themselves. They became silent at work.

Chapter 6: Interpretation and Discussion

The purpose of this chapter is to interpret and discuss the findings of the study. First, the quantitative results are discussed according to the different dependent variables (structural empowerment, psychological empowerment, and participation in decision making). Then the discussions of the qualitative findings and methodology issues are presented. Finally the implications and recommendations for Taiwanese nursing administrators, educators and future research are provided.

Quantitative Part

Structural Empowerment

Participants in this study had a moderate level of structural empowerment (SEP). This finding agreed with a previous study conducted in Taiwan by Chen and Lin (2002) and other previous studies in Western society (Laschinger & Havens, 1996; Laschinger, 1996b). Among the subscales, Taiwanese nurses had the highest score in opportunity, which agreed with previous Taiwanese studies (Chen & Lin, 2002; Liu, Chang, Li, & Liao, 2006). Yet Taiwanese nurses were less empowered in the area of resources, a finding that also agreed with Chen and Lin's study. The finding indicated that nurses had increased workloads of paperwork, did not have enough time to finish their work, and might not get immediate assistance from others. All these findings reflect the problem of the nurse shortage. However, in Liu and her colleagues' study (2006), nurses were less empowered in the area of support, meaning nurses did not get enough advice or suggestions for their work. The difference stems from the fact that nurses in Liu's study were public health nurses who worked in the community, but nurses in this study mainly worked in hospitals. The different work content and environment caused the difference in findings.

In this study, SEP was tested among groups with different backgrounds, such as education, type of hospital, work unit, and nursing ladder. SEP was not significantly different among educational levels and nursing ladders, which is in agreement with Chen and Lin's study (2006). However, in Western society, education was a significant factor related to SEP (Ellefsen & Hamilton, 2000). In Taiwan, nurses with a higher education level might still do nursing work similar to that of others in the clinical area, unlike nurses in the United States, who had different positions (nurse assistant, Licensed Practical Nurse [LPN], Registered Nurse [RN], and Advanced Practice Nurse [APN]). Unit nurses in Taiwan did all the work of nurse assistants, LPNs, and RNs. There was no distinction based on educational level. Furthermore, the education levels for nursing in Taiwan were very complicated, including vocational education (3 years high school, 5 years or 2 years junior college, and 2 years or 4 years vocational college), 4 years of a university education, and graduate education. Too many levels of nursing education created problems in differentiating nursing work in the clinical area. Therefore, even a nurse with a graduate degree, if she still worked as a unit nurse, was no different from other unit nurses with less education.

Based on Kanter's theory, position should be a good predictor of SEP. Surprisingly, in this study, SEP did not differ among nursing ladders. In the correlation results, the nursing ladder was significantly related to nurses' formal power but was not significantly related to SEP. The reason might be that each hospital had different standards for the classification of nursing ladder and the work content for each ladder might not be distinctly differentiated. Therefore, nursing ladder became a less significant factor related to SEP.

Furthermore, SEP was significantly different among types of hospitals and work units. Nurses who worked in a medical center had a higher level of SEP than those in a nonmedical center. No other studies tested this factor for SEP. However, McGillis Hall, Doran, Sidani, and

Pink's finding (2006) that nurses in the higher-level hospitals had more positive perceptions of their work environment was similar to the finding in this study. Also, in correlation results, medical centers had a significantly positive relationship with SEP, but teaching hospitals had a significantly negative relationship with SEP. Two reasons might account for the finding. First, in a medical center, the patient-nurse ratio, although still high, was lower than that in a nonmedical center due to the requirements for hospital credential evaluation. If a hospital was classified as a medical center in the evaluation, then it would receive more governmental reimbursement. Another possible reason was that nurses in a medical center might have more opportunities for training because the patients' conditions in a medical center were more complicated than those in a nonmedical center. Nurses in a medical center might have more opportunities to engage in challenging work.

Regarding work units, the result agreed with previous studies (Chen & Lin, 2002; Laschinger & Shamian, 1994; Laschinger, 1996b). In those studies, nurses in critical care units had a higher level of SEP than those in medical-surgical units. In this study, nurses who worked in a special unit (including critical care units and emergency rooms) or in the administration area had a higher level of SEP. This might be because nurses in special units, especially critical care units, had more on-the-job training and were therefore more independent and more autonomous than nurses in other units (Chen & Lin, 2002). Administrators had more formal and informal power, so their SEP levels would be higher than those of other nursing staff members.

Factors that were significantly positively related to SEP were types of hospital, work units, formal power, and informal power. Only workload had a significantly negative relationship with SEP, which meant that nurses with increased workload had a lower level of SEP. It was obvious that with increased workloads, nurses did not have enough time to finish all the required work on time, which made them become less empowered with regard to

resources. Also, in SEP regression model 1, workload, work units, types of hospital, and formal and informal power were significant predictors of SEP. However, in model 2, workload and work unit became insignificant. The reason might be that when formal and informal power were added into the model, they partially diminished the influence of workload and work unit. The questions for formal power were related to the nurses' job activities, and those for informal power were related to collaboration with other professionals in hospitals. Both could be considered as a part of nurses' work content, which might be similar to nurses' perceived workload at their work units. The finding regarding formal and informal power agreed with previous studies (Ellefsen & Hamilton, 2000; Laschinger & Havens, 1996; Laschinger & Sabiston, 2000; Laschinger & Shamian, 1994; Laschinger, 1996b; Laschinger et al., 2003; Laschinger, Wong, McMahon, & Kaufmann, 1999).

Other background factors, such as age, work experience, education, and nursing ladder, did not significantly correlate with SEP. The findings, except with regard to nursing ladder, supported Kanter's theory that personal characteristics do not have much influence on empowerment other than the structural variables (Kanter, 1977). However, in Ellefsen and Hamilton's study (2000), nurses in the United States with more working experience had more informal and formal power, and in Norway older nurses had higher scores on informal power and SEP. However, in this study, the results indicated that older nurses and more experienced nurses in Taiwan did not perceive higher levels of formal power, informal power, or SEP. The reasons might be that career advancement in Taiwan was not well established and the promotion rate for nurses was slow. Nurses who had been working in a hospital for a long time might still work as a unit nurse and do the same work without any significant changes. The issues regarding education and nursing ladder were explained previously. In sum, the structural

variables, such as workload, types of hospital, and work units, had more influence on Taiwanese SEP than did nurses' personal characteristics.

Psychological Empowerment

In this study, participants had a moderate to high level of psychological empowerment (PE). Among the subscales, participants had the highest score on meaning and the lowest on impact. All the findings agreed with previous studies in nursing (Laschinger et al., 2001b; Liu et al., 2006). Age, education, and work experience were not significantly related to overall PE. However, if the subscales of PE were tested for the relationship with age, education, and work experience, the finding was slightly different. Age was significantly related to competence, education was significantly related to impact, and work experience was significantly related to meaning and competence. It was obvious that nurses with more experience could be more confident in their performance ability. Also, they might have found meaning in their work, keeping them working in hospitals. Age was significantly related to work experience, revealing that older nurses might have more confidence in their competence. These findings were similar to those in previous studies (Hancer & George, 2003; Huang, Shi, Zhang, & Cheung, 2006). In Hancer and George's study (2003), PE was significantly different between younger and older employees. Older employees had a higher score of PE, especially in meaning, competence, and impact. Also in their study, more experienced employees had a higher score in competence. Furthermore, in the study by Huang et al., work experience was significantly related to meaning, and in Spreitzer's study (1996), education was positively related to overall PE. In this study, the reason that age, education, and work experience were not related to overall PE might be that the dimension of impact in PE played an important part in nurses' perceived work roles. In this study, participants had a lower level of impact, which indicated that they did not have control over their work environment despite their age, education, and work experience.

On the other hand, in this study, PE differed significantly among work units and nursing ladders. Participants who worked in the administration area had a higher level of PE. Also, participants with a higher nursing ladder had a higher level of PE. This finding was similar to Hancer and George's finding (2003) that employees with higher positions had a higher score of PE. In this study, participants with a higher level of nursing ladder were mainly nursing administrators, whose work content was very different from that of staff nurses. They had the power to manage a unit or several units. Therefore, their impact on the workplace was much more significant than staff nurses'.

Another background factor significantly related to PE was workload. Increased workload would decrease participants' PE. When the relationship between workload and the subscales of PE was tested, workload was negatively related to self-determination, which regards nurses' autonomy, independence, and freedom. Nurses with an increased workload might not have had enough autonomy to decide how they did their work. For example, they might have wanted more time to listen to patients, but with the increased workload, they did not have the opportunity to do so. Therefore, with an increased workload, nurses might have a lower PE.

Participation in Decision Making

In this study, nurses had a low level of PDM. In addition, nurses' actual level of PDM was significantly lower than the preferred level of PDM, which agreed with a study by Mangold et al. (2006). Participants in this study were expected to be more involved in PDM, especially in unit governance and leadership, professional recruitment, quality of professional practice, and unit staffing. However, the score for nurses' preferred level of PDM was still low. In the six different domains of decision making, the mean score for each domain was below 3 (equally shared by administration and staff nurses), except in the collaboration/liaison activity domain. The mean score for unit staffing, quality of professional practice, and unit governance was 2.96,

2.97, and 2.72, respectively, which were all very close to 3 and which indicated that staff nurses wished to participate equally with administrators to decide on issues regarding nurse staffing and how they did their work. However, for professional recruitment, the mean score was 2.07, which indicated that participants thought that recruitment was mainly administrators' work but that it would be good if they could provide some input. There were several possible reasons that nurses did not prefer a higher level of decisional involvement. First, nurses in Taiwan might not have much information regarding how to involve themselves in the process of decision making and what mechanism PDM is. Second, due to increased workload, they might want to participate only in certain aspects of decision making. They did not want to participate so much that they significantly increased their workload (Kahnweiler & Thompson, 2000) because hospitals usually did not pay for nurses' overtime work. Another possible explanation is related to Chinese culture. The detailed discussions are presented in the qualitative part of this study. The most decisional dissonance in this study was in the area of unit governance and leadership. The result indicated that nurse managers should apply participative management to empower nurses to make decisions at the unit level, such as the determination of the unit budget and recommendations for promotion of staff nurses.

Background factors that were correlated with PDM were workload, types of hospitals, and work units. Also in this study, workload was a significant predictor of PDM. The increased workload decreased nurses' actual level of PDM, most likely because, for nurses, PDM was extra work. With increased workload, nurses might not have the necessary time or energy for PDM in addition to taking care of patients. In this study, nurses who worked in a medical center and those who worked in a special unit had a higher level of PDM. These findings were similar to the study by Mangold et al. (2006), which found that nurses' actual level of PDM did differ among work settings. The reason might be that the patient cases in a medical center or in a

special unit were more complicated, so nurses in these centers might have more opportunities to participate in the decision making regarding patient care than those in a nonmedical center or in a nonspecial unit. Other factors, such as age, education, work experience, and nursing ladder, did not significantly correlate with nurses' actual level of PDM. However, some previous studies showed that age, education, work experience, and position were related to PDM (Denton & Zeytinoglu, 1993; Kahnweiler & Thompson, 2000). Another study by Yu, Hu, Chou, and Lai (1999) in Taiwan found that age and work experience were positively related to nurses' PDM but that position was not. The difference might be that those studies used different scales to measure PDM. Also, the characteristics of samples in the previous studies (Denton & Zeytinoglu, 1993; Kahnweiler & Thompson, 2000) were very different from the nurses in this study.

In this study, although educational level was not significantly related to PDM, when the level of PDM was compared among educational groups, PDM did differ among educational levels. Surprisingly, nurses with a graduate level education had a lower level of PDM, which might be due to the fact that those nurses were mainly nurse special practitioners. They were not involved much in the decision making at the nursing units but were involved more in patient care. Their work content was more independent from nursing, which is why they did not have a higher score on PDM. Another reason might be that graduate level nurses expected a higher level of PDM than they actually had. Therefore, they might perceive themselves as having a lower level of PDM.

In this study, SEP was a significant predictor of both PE and PDM, which supported Kanter's theory that structural factors at workplaces were important conditions for empowering employees to accomplish their work (Kanter, 1977; Laschinger et al., 2001b). Also, PE was a mediator between SEP and PDM, which agreed with a finding by Laschinger et al. (2001b) that

indicated that participants who had a higher level of SEP also had a higher level of PE. With increased access to workplace empowerment structures, nurses perceived better personal empowerment, which in turn increased nurses' PDM.

In sum, the finding indicated that personal characteristics, such as age, education, and work experience, did not correlate to nurses' empowerment. However, the work structures, such as workload, types of hospitals, and work units, were significantly related to nurses' empowerment. The finding supported Kanter's theory that work behaviors and attitudes are shaped by structural factors in the work environment rather than by personal attributes or internal factors (Manojlovich & Laschinger, 2002). Therefore, if the disempowerment component could be improved in nurses' work environment, nurses could have access to information, opportunities, resources, and support, and in turn nurses would have a greater sense of autonomy and make a more significant impact on their work environment.

Qualitative Part

Nurses' Work Environment

For nurses' perceptions about their work environment, the overall theme "foot-binding unto nursing" was constructed. The finding indicated that certain stereotypes regarding gender roles in Taiwanese society were restraints to the growth of nursing. Due to the stereotypes, nursing is still considered a traditional female occupation. Those stereotypes came from the traditional Chinese culture that determined females' role and status in society. In the following sections, the background of foot-binding and the influence of Confucianism on gender roles and nurses' status are discussed.

Foot-binding was an old custom in ancient China that lasted for at least 1,000 years, mainly during the period of the Five Dynasties and the Ten Kingdoms (907–960), and that was

not completely abandoned until the Communists assumed power in 1949 (Jackson, 1997a). At that time, girls between the ages of 4 and 6 would be forced to have their feet bound by their mothers so that one day they could marry into a good family with advanced social status because they had beautiful, small feet, usually about 3 inches long (Hong, 1997). However, females with small feet became more vulnerable and disabled because they could not walk far, run, or dance. They became more dependent on males. In this way, males kept their power and authority. Foot-binding then became a tool for social control in the patriarchal society (Hong, 1997). Also, the process of foot-binding involved a lot of pain. One old saying claimed, "There are a thousand buckets of tears for one who binds her feet."

The reasons for how foot-binding started and why it lasted so long are not clear, yet Confucianism had a profound influence on the custom of foot-binding. For almost 2,000 years, Confucianism had been the Chinese political, social, and moral foundation (Hong, 1997). It defined each person's position in society and developed particular rules for people's interactions with one another (Chen & Chung, 1994), which in turn created a hierarchical human relationship, including the relationship between males and females.

Confucianism adopted some part of the ancient concept of yin and yang (Hong, 1997) to classify the different social statuses of men and women. In the ancient concept, yin represented the principles of females: dark, weak, passive, cold, submissive, etc. On the other hand, yang symbolized the principles of males: bright, strong, active, hot, dominant, etc. According to Hong (1997), the difference between males and females, based on this concept, was as the difference between heaven and earth: "Men were noble and women were ignorant" (p.21). In this way, women's rights were taken away, especially the right to education.

Furthermore, the Confucian teaching of "Thrice Following" regulated females' behavior. It stated that females in their youth must obey their fathers and brothers, follow their husbands

after marriage, and follow their sons after the death of their husbands (Bureau of Education in Republic of China, ND). Hence, in the male-dominated society, foot-binding fulfilled the Confucian ideals of confinement and subjugation (Jackson, 1997a). Foot-bound females were not only physically restricted but also mentally dependent. In society, females were considered as limited and inferior, and many restrictions were imposed upon them (Hong, 1997).

In Taiwan, physicians are mainly males and nurses are mainly females. It stands to reason that the dualism of gender roles applies to the health care system, meaning that the image of 'physicians are heaven and nurses are earth' would be present. In fact, the finding in this study that "physicians are the masters and nurses are the maids" attests to the dualism's presence. Because of this kind of image, patients expect that nurses obey physicians' orders and be dependent upon physicians.

In the traditional Chinese caring system, two major standards—that males and females should be treated differently and that seniors and juniors should operate within their ranks—determined that persons with lower status should take care of those with higher status (Liu, 2006). In other words, the daughter-in-law should serve the parents-in-law, the wife should serve the husband, and servants should serve masters. Therefore, the caring occupation among Chinese was an extension of serving, not nursing. Nursing education in Taiwan was based on the nursing ethics taught in Western society, which mainly focused on caring. Caring was seen as an extension of the mother's role. Therefore, the skills associated with mothering were considered as "natural" and most likely would not be recognized as anything out of the ordinary. People expected that those who provide care do so out of love, not for money (England, Budig, & Folbre, 2002).

Additionally, caring was labor intensive. Both face-to-face and hands-on contact were required. The cost to consumers for nursing was relatively low compared with that for the labor

to produce physical goods (England et al., 2002). Also, customers in the health care systems were mainly the people with the least money to pay for the services. Those people included children, elders, and disabled and ill persons. In other words, people who needed the most care were the least able to work to pay for it (England et al., 2002). Hence, people in the health care industry faced a relative wage penalty. At Taiwan National Health Insurance, the fee for nursing was not included in the reimbursement to reflect the real cost for nursing work, which in turn made nurses become the most reasonable sacrifice for hospitals under financial pressure. Although nurses had fought for the reimbursement, they were ignored by the Bureau of National Health Insurance. The stereotypes on caring had allowed nurses' low pay, and those same stereotypes may be the reason participants in this study perceived that their pay was not comparable to what they have done and that their work was not appreciated financially. In sum, nurses in hospitals did females' work, got females' wages, and played females' roles (Liu, 1998).

According to Liu (2006), the nursing image in Western society was "the light in Nightingale's hands," which implied hope, brightness, and warmth. On the other hand, in Taiwan, the nursing image was transformed from "light" to "candle," which implied self-sacrifice. Nurses were expected to make sacrifices for others' good (Liu, 2006). This provides an explanation on why participants faced a lot of pressure and social expectations that they should make patients their priorities and put their own emotional needs last. This also might be the reason that participants perceived so many demands from patients and felt that their work was taken for granted.

As mentioned earlier, Chinese culture categorized females and caregivers into a lower social status. This kind of cultural norm largely prevented males from entering nursing. Also, men were considered to be skillful, rational, independent, and competitive, which was very

different from what nurses were expected to be: gentle, kind, patient, and submissive. When males entered nursing, they faced the conflicts of gender role stereotyping (Tzeng, 2000). According to Hsu (2004), male nurses felt that their self-esteem was hurt when they did "females' work," especially the dirty work of cleaning patients' urine or stool. Also, they felt offended when people said that they were doing females' work, which might imply that they were not men or did not possess men's characteristics. They were especially worried about how their children could describe their father's job without getting a strange reaction from others. Due to the gender stereotype, nursing became a disproportionately female occupation. In 2004, Lu (2004) found that male nurses accounted for only 0.58% of total practice nurses in Taiwan.

Although the number of male nurses was low, it did not mean that they did not have power. They were few in nursing units, but they were the majority in the area of administration (Hsu, 2004). Top managers favored male nurses because they had different work patterns than female nurses and were not influenced by marriage. In this study, one participant mentioned that male nurses devoted themselves to their work without complaining for extra time off to obtain on-the-job training or educational advancement. However, this statement did not consider females' responsibilities to their families.

Currently, females are still mainly responsible for taking care of children, children's education, and most household chores even though they, like their husbands, work full-time (Rou et al., 2003). Men, however, are free to fully engage in their careers. According to Xie and Shaman (2003), after the birth of a first child, the majority of women in science would decrease their working hours from what they had maintained at their jobs before the child's birth. Hence, men gained from marriage, but family responsibility tended to disadvantage women.

Furthermore, the finding "conflicts among nurses" was similar to what Roberts (1983) mentioned about oppressed group behaviors. The oppressed group would internalize the norms

of the dominant group and assimilate the dominant group's behaviors. When nurses felt powerless, they would have divisiveness, a lack of effective leadership (Chinn, 1995), horizontal violence, and a fear of change from the status quo (Roberts, 1983). According to Kanter (1993), a certain degree of power is necessary for people to have a healthy self-esteem and well-being. People who feel powerless tend to control others. If leaders are powerless, then they become critical, bossy, and controlling, and they tend to give less freedom to their subordinates and become rules-minded. The psychological powerlessness among nurses might explain why participants perceived the attitude of "women give a hard time to other women."

Participation in Decision Making

For participants' experience with PDM, the overall theme was "not open up." The finding indicated that there was a communication gap between administrators and clinical practice staff nurses, meaning that the communication channel (information flow) between administrators and staff nurses was not sufficient. This finding was different from what has been found in Western society. In Upenieks's study (2002), nursing leaders in Western society supported nurses in openly presenting and implementing their ideas so that nurses would feel that they were important in the organization and would feel empowered. Several possible reasons might account for the different findings. In the following sections, the influence of Confucianism and collectivism on Chinese communication and the power issue are discussed.

As mentioned earlier, under the influence of Confucianism, human relationships were hierarchical. Particular rules or interaction patterns applied to different contexts (Yum, 1988). In a social interaction, usually the person with authority or higher social status did the talking, and the person with lower social status listened (Gao, 1998). Chinese made their voices heard only when they were recognized, and the recognition was based on one's seniority, knowledge, or authority (Gao, 1998). Based on the particular rules, sometimes it was hard for subordinates to

initiate direct communication with superiors due to the fear of getting into trouble (Lu, 1998). This kind of communication culture might be one reason for participants' (staff nurses) indirect communication with their administrators.

Another reason might be the sense of collectivism among Chinese. Collectivism means that people have a tendency to put group goals above individual goals (Lu, 1998). Within the context of collectivism, according to Li and Chi (2004), Chinese communication tended to reflect care about others' feelings. The communication was usually indirect and the words usually succinct and vague so that people could avoid embarrassment. The ambiguity of verbal communication provided room for flexibility to negotiate things (Chang, 1999a). Furthermore, the horizontal collectivism, which emphasized the relationship between self and peers and was characterized by accommodation and interdependency for the purpose of group affiliation and solidarity (Lu, 1998), might be another reason for staff nurses' indirect communication. In this study, participants usually searched for common consensus in the unit so that they could avoid conflicts and maintain the affiliation. If a common consensus was not reached, then they could adapt to accept the situation without destroying the group's wellness.

Another possible reason is related to the autocratic leadership. The participants mentioned that their silence sometimes came from the fear of being the target of revenge by the superiors. The power issue existed. According to Huang's study (1988), leaders under the influence of Confucianism tended to apply autocratic leadership. They disliked employees who performed better than themselves. They usually held information to themselves and released only a little to employees (depending on the closeness of the employee to the leaders) so that they could keep the power difference in place. Therefore, it was the leaders who decided the level of employees' involvement in decision making. Also, in the high power distance society, if the subordinates crossed the line to challenge the superiors, then the subordinates' behavior

would be seen as a deviation (Li & Chi, 2004). Collectivism and power distance might also partially explain the finding in the quantitative part of this study that most decisions were still in administrators' hands and that nurses' preferred level of decisional involvement was low. Although nurses' preferred level of decisional involvement was not high, in the qualitative study nurses did expect that the administrators would consult them for their opinions, value their suggestions, and keep those suggestions in mind while they were making decisions.

In sum, nurses' perceptions of their work environment and their experience with PDM were mainly influenced by Chinese culture. Confucianism determined the gender roles and society's stereotype on females' work, which lowered the social status of nursing and affected the outlook on and growth of nursing. In addition, Confucianism, Chinese collectivism, and power distance determined the indirect communication pattern among Chinese, which created the gap between nursing administrators and staff nurses.

Methodological Issues

In this study, several issues were found related to measurement and data collection. First, based on the finding in the mixed-methods study, workload was an important factor for nurses' perceptions regarding their work roles and environment. In this study, workload was measured on a 0–100 scale. This scale measured only the nurses' overall perceived workload but did not specifically measure in which area nurses felt most burdened. In the qualitative study participants did mention their heavy workload resulting from paperwork, the inconsistency of hospital policy and the overlapping of physician and nurses' work. However, the finding cannot be generalized to other Taiwanese nurses.

Second, the inclusion criteria for nurses should be more specific regarding the term "registered nurse." In Taiwan, registered nurses not only work in taking care of patients; they might also work as technicians, research assistants, and other types of personnel. In this study, 3

participants actually did not work in the nursing area, but they were registered nurses. They were excluded from the data analysis. Also, 1 participant had worked fewer than 3 months, but she passed the screening test to complete the survey. Fortunately, the survey included one more question regarding work experience, at which point this participant answered that her working experience covered only 2 months. Another nursing assistant identified herself as a registered nurse. Although both participants' data were excluded from the data analysis, the issue of false identification should be aware.

Another issue was related to the online forum. In the forum, most participants posted only one message per topic, and the length of each post was about 5 to 30 lines. Most participants just posted their messages based on the questions but did not directly interact with one another much. Although they might have had different opinions, they simply provided their thoughts in response to the questions without commenting on others' posts. Only 2 participants used the function of quotation in the forum. Two possible reasons for this are that, first, participants might be not familiar with the format of an online forum, and second, the Chinese communication culture emphasizes saving face for others, so participants would not directly challenge one another's opinions.

Implications and Recommendations

Based on the findings and discussion of this study, the following implications and recommendations are made for Taiwan nursing administration, nursing education, and future research.

Nursing Administration

1. Nurses in this study identified that they had limited access to resources within their organizations. Nursing administrators need address this issue by decreasing nurses' workload. To accomplish this, several things should be done. First, more research related

nurses' workload needs to be done to explore which areas nurses perceive more burdens. Then administrators could readjust nurses' work content, such as simplify the procedures of nursing care. Second, administrators need to recalculate nursing manpower based on patient acuity so that they can provide enough staff nurses to improve the quality of care. Third, the documentation of nursing care needs to be simplified. Due to hospital evaluations, more and more documentation is required and nurses are the ones responsible for documenting all the required information. Nursing administrators need to integrate all the information and negotiate with other health care professionals in the hospital to share the load. Fourth, the work content between nurses and physicians needs to be redefined so that nurses can fight for reimbursements.

2. This study identified that nurses have limited impact at their workplaces, which might be related to nurse administrators' leadership styles. Nurse administrators need to apply a participative management style to create a supportive environment for nurses. The hospital could have regular workshops to discuss issues related to nurses' clinical practice, nurses' work environment, and patient satisfaction. They could communicate with nurses about hospital policies in order to keep the decision making as transparent as possible. In this way, staff nurses could understand what is going on and the anxiety related to uncertainty could be decreased. Also, this kind of communication would enhance the upward communication so that the top administrators in the hospital could make better strategic decisions to improve nurses' performance.
3. Nursing administrators need to delegate their power to staff nurses, listen to what staff nurses want to express, and show staff nurses their support and appreciation. In this way, staff nurses might feel that they can contribute something at their workplaces and that their suggestions are valued.

4. Nursing administrators need to provide a learning environment in which staff nurses can gain more of the knowledge related to unit decision making, such as finance and budget, or related to different nursing committees, such as quality control and nursing research, so that nurses would be more confident about their participation in decision making and initiate some creative innovations.

Nursing Education

1. Feminism needs to be incorporated into nursing education. Through feminism, nursing students can understand the stereotype of gender roles in society and how it influences the development of nursing. This kind of awareness can help nursing students think in a different way, not in the traditional cultural norm, and to identify the sources of oppression in the health care system and in the patriarchal society. In this way, students can confront the systematic injustice, eliminate the myths created by the old order (Roberts, 1983), and start to embrace the richness and uniqueness of nursing and value themselves as women (Chinn & Wheeler, 1985).
2. In nursing education, more emphasis needs to be put on leadership training. Only a few nursing schools specifically provide the courses needed for specializing in nursing administration. The advanced training resources for nursing administrators are not enough due to the shortage of nursing professors in the specialty of nursing administration. More professors prepared through the nursing administration doctoral program are needed so that they can introduce more updated administration theories or concepts into the practice of nursing.
3. Taiwanese nursing educators need to provide an empowering environment so that students can exercise their power, engage in active learning, and participate in the design

of course objectives and learning goals. In this way, these students after graduation might be able to actively participate in decision making and speak up for themselves.

Future Research

1. In this study, personal characteristics, such as age, education, and work experience, did not correlate with Taiwanese nurses' empowerment, a finding that is not consistent with other studies. More research needs to be done to further verify the relationship between personal characteristics and Taiwanese nurses' empowerment.
2. A better measurement for workload among Taiwanese nurses needs to be developed to explore the most burdened workload so that the strategies for work environment improvement can be created.
3. Cross-cultural studies regarding nurses' empowerment and participation in decision making need to be done to identify the cultural differences.
4. More qualitative studies regarding nurses' empowerment and their work role need to be done to redefine empowerment among Taiwanese nurses.
5. In this study, Internet is a good method for data collection among Taiwanese nurses. More studies related to the methodological issues of Internet research need to be done, such as data saturation in the online forum, and false identification on internet survey. For data saturation, the moderator in the forum should pay more attention to the Chinese communication culture and develop skills to enhance interaction but not make participants feel pressured. Also for the internet survey, the screening test and background questions should be carefully designed to prevent false identification.

Summary of the Study

In this study, Taiwanese nurses' level of empowerment (structural [SEP] and psychological [PE]), participation in decision making (PDM), their predictors, and their

relationships were examined, and the influence of contextual factors (culture and gender) was also explored based on the feminist perspective and Laschinger's expanded empowerment model. This study was a cross-sectional and Internet mixed-methods study that included an Internet questionnaire survey (quantitative) and a Web-based online forum (qualitative). The Internet survey was used to explore the relationships among background factors; power factors; SEP, PE, and PDM; the predictors of SEP, PE, and PDM; and the mediating effect of PE in the relationship between SEP and PDM. In the online forum, nurses' perceptions about their work environment and their experiences were explored within the context of culture and gender.

The inclusion criteria for participants included being a Taiwanese registered nurse who (a) was currently working full-time in a health care institution where employed for at least 3 months, (b) could read and write Chinese on the computer, and (c) had access to the Internet. For the quantitative part, a convenient sample of 163 eligible participants completed the Internet survey. Twenty participants completed all three topics in the online forum.

Several instruments were used in the Internet survey: (a) a background information sheet, (b) the Nurse Work Empowerment Scale (NWES) questionnaire for measuring SEP, (c) the Psychological Empowerment instrument for measuring PE, and (d) the Decisional Involvement Scale (DIS) for measuring PDM. In the qualitative part, three topics were designed to collect data regarding nurses' work environment, gender, power, oppression, and PDM. The quantitative data were analyzed with descriptive statistics, pair t-tests, Kruskal-Wallis test, bivariate correlation, and multiple regressions by using SPSS 12.0. The qualitative data from the online forum were analyzed via thematic analysis.

The finding in the quantitative study showed that the work structures, such as workload, type of hospital, and work unit, were significantly related to nurses' empowerment and PDM. Informal power and formal power were significant predictors of SEP. SEP was a significant

predictor for PE and PDM. PE partially mediated the relationship between SEP and PDM. The theme of "foot-binding unto nursing" in the qualitative study showed that the stereotypes regarding gender roles in Taiwan society hindered nursing development just as the ancient practice of foot-binding hindered females in China. "Not open up" reflected that the communication among nurses was not sufficient, which might stem from the influence of Confucianism, collectivism, and power distance.

According to the findings in this study, nurses' working environment is very important to their empowerment. Nursing administrators should provide a supportive environment for nurses to have access to opportunities, information, support, and resources so that they can have more positive perceptions about their work role and in turn enhance the empowered behaviors, such as participation in decision making. With empowered nurses, the health care quality in Taiwan can be improved.

Appendix

Appendix 1

The List of Background Questions
(English and Chinese Versions)

Background Questions

1. What is your gender?
2. What is your age?
3. What is your education level?
4. What is the type of hospital you are working in?
5. What level of the nursing ladder are you currently at?
6. What kind of nursing unit are you working in? (e.g., Med/Surg, ER, ICU…etc)
7. What is your average workload? (100 scale)
8. How many years have you been working in this hospital?

Demographic questions in Chinese

1. 你的性別?
2. 你的年齡?
3. 你的教育程度?
4. 你工作的醫院類型?
5. 你的護理職級?
6. 你工作的護理單位類型? (內科、外科、急診、加護病房)
7. 你工作時平均的工作量爲何?
8. 你在現今這家醫院工作的年資?

Appendix 2

Screening Test Questions
(English and Chinese Versions)

Screening Test Questions

1. Are you currently working as a registered nurse? Yes/no
2. Are you working in a hospital? Yes/no
3. Do you work full time? Yes/no
4. How long have you been working in the current unit? less than or equal to three month / greater than 3 months

Screening Test Questions in Chinese

1. 你現在還在做護士?
2. 你現在在醫院工作?
3. 你是全時間工作的護士而非部分工時?
4. 你在現在的工作單位多久了?

Appendix 3

Informed Consent to Participate in Research

You are being asked to participate in a research study. This form provides you with information about the study. The Principal Investigator (the person in charge of this research) will also describe this study to you and answer all of your questions. Please read the information below and ask questions about anything you don't understand before deciding whether or not to take part. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

Title of Research Study:

An Internet Study on Taiwanese Nurses' Empowerment and Participation in Decision Making

Principal Investigator:

Principal Investigator: Yi Liu, MSN, RN, Doctoral Candidate, University of Texas at Austin, School of Nursing, (512)560-9477, e-mail: gn94yliu@mail.utexas.edu

Funding source: Not applicable

What is the purpose of this study?

The purpose of this project is to explore Taiwanese nurses' level of empowerment (structural and psychological), participation in decision makings, their predictors and the influence of contextual factors (culture and gender).

About 121 participants will be recruited for the internet survey and 30 for online forum discussion.

What will be done if you take part in this research study?

Your involvement in the study will be: (a) about 15-20 minutes are usually needed to complete the Internet survey questionnaire; and (b) online forums will be conducted for 1 month if you agree to participate.

If you agree to participate:

1. You will be asked to visit the home-page of this project, join the project, get a copy of the informed consent sheet that provides general information on this project, click the 'I agree to participate' button to give your consent to participate, and answer the Internet survey questions.

2. You will be asked to answer the Internet survey questions.

3. You will then be asked to participate in additional online forums. When you agree, some of you will be asked to register. When you register through the Internet, you will be

given an ID and passwords by e-mail within 2-3 days. You should use the ID and passwords to log into the online forum site.

4. When the online forums are initiated, you will receive an e-mail asking to visit the online forum site. When you visit the online forum site, you will be asked to introduce yourself to other participants for the online forum. You will be given 1 month to discuss three topics posted on the forum site. Within 1 month, at your convenience, you can read and leave a message related to the topics. Please note that at least, at least one message for a topic is required for reimbursement of your participation in the online forums. To write one message of 5 lines for online forum, it will take 5-10 minutes. In other words, to write a total of 4 messages, it will take 20-40 minutes. In addition, at the end of the third week, you will be asked to add any topics that you want to discuss with other participants. Then, the topics added by you and other participants will be discussed during the last week.

The Project Duration is: This study will last for 6 months.

What are the possible discomforts and risks?

1. Participation in this study may be an inconvenience and some of the questions may make you uncomfortable or upset. Yet, you are free to decline to answer any questions you do not wish to answer or to stop participating in the project at any time by closing the Internet browser.

2. Confidentiality: Your records will be handled as confidentially as possible. Data collected through the Internet survey and online forums will remain confidential. Only the principal and authorized persons will have access to the study records (your answers/messages entered/posted for Internet survey and online forums will be directly saved in ASC II files). No individual identities will be used in any reports or publications that will result from this study. However, as an online participant in this research, there is always the risk of intrusion by outside agents, i.e., hacking, and therefore the possibility of being identified.

If you wish to discuss the information above or any other risks you may experience, you may ask questions by emailing or calling the Principal Investigator listed on the front page of this from.

What are the possible benefits to you or to others?

There will be no direct benefits to you. Yet, you may get some awareness about your experience on empowerment and decision makings after you complete the study.

If you choose to take part in this study, will it cost you anything?

There will be no costs to you as a result of taking part in this study.

Will you receive compensation for your participation in this study?

Reimbursement for participation will be made by providing a gift certificate of 100 NT dollars

per Internet survey participant and a gift certificate of 300 NT dollars per online forum participant. The reimbursement will be mailed out once you fulfill the requirements of this study.

What if you are injured because of the study?

The University has no program or plan to provide treatment for research related injury or payment in the event of a medical problem, although there is no physical injury involved in this study. In the event of a research related injury, please contact the principal investigator.

If you do not want to take part in this study, what other options are available to you?

Participation in this study is entirely voluntary. You are free to refuse to be in the study, and your refusal will not influence current or future relationships with The University of Texas at Austin.

How can you withdraw from this research study and who should you call if you have questions?

If you wish to stop your participation, you should contact the principal investigator: Yi Liu (512)560-9477 or gn94yliu@mail.utexas.edu, or by mail: 1700 Red River St. Austin, TX, 78701, USA. You should also call the principal investigator for any questions, concerns, or complaints about the research. You are free to withdraw your consent and stop participation in this research study at any time without penalty or loss of benefits for which you may be entitled. Throughout the study, the researchers will notify you of new information that may become available and that might affect your decision to remain in the study.

In addition, if you have questions about your rights as a research participant, or if you have complaints, concerns, or questions about the research, please contact Lisa Leiden, Ph.D., Chair, the University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, or the Office of Research Compliance and Support at (512)471-8871.

How will your privacy and the confidentiality of your research records be protected?

If in the unlikely event it becomes necessary for the Institutional Review Board to review your research records, then the University of Texas at Austin will protect the confidentiality of those records to the extent permitted by law. Your research records will not be released without your consent unless required by law or a court order. The data resulting from your participation may be made available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate you with it, or with your participation in any study.

If the results of this research are published or presented at scientific meetings, your identity will not be disclosed.

Will the researchers benefit from your participation in this study (beyond publishing or presenting the results)? No

You have been informed about this study's purpose, procedures, possible benefits and risks. Please print out this web-page and keep a copy of this Form. If you have further questions, please contact Yi Liu at (512)560-9477 or gn94yliu@mail.utexas.edu.You have been given the opportunity to ask questions before you sign, and you have been told that you can ask other questions at any time. You voluntarily agree to participate in this study. **CLICKING ON 'YES, I AGREE TO PARTICIPATE' INDICATES THAT YOU ARE AT LEAST EIGHTEEN YEARS OF AGE AND YOU ARE GIVING YOUR INFORMED CONSENT TO BE A SUBJECT IN THIS STUDY.** By clicking on 'yes, I agree to participate', you are not waiving any of your legal rights.

Yes, I agree to participate.

No, I do not agree to participate.

Appendix 4

參與研究約定書

很高興能邀請您來參與一個關於台灣護理人員授權灌能的研究，這份研究約定書提供您關於此研究的相關訊息。此研究計畫人將會回答您所有的問題。在您決定要不要參與這個研究前，請先閱讀以下說明或提出您對這個研究的疑問。您的參與將是完全自願的，即使您不參加也不會對您造成任何損失。

研究主題

關於台灣護理人員的授權灌能及決策參與的網路研究

研究計畫者

劉怡 美國德州奧斯汀護理博士班候選人
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研究經費來源: 無

研究目的:

此研究的目的是探究台灣護理人員的授權灌能和決策參與的程度和相關性，以及文化和性別的影響。此研究將需要121位註冊護士。

如果你參與此研究將需做些什麼?

你的參與將包括(a)15-20分鐘填寫問卷及(b)爲期一個月的網路論壇。

如果您同意參與:

1. 您將被邀請至此研究的主網頁並閱讀此約定書上的相關資料然後點擊“是的我同意參與”的按鈕。
2. 您將被邀請填答一份網路問卷。
3. 您也會被邀請參與網路論壇。當您同意後二至三天，您將會收到電子郵件告知您的登入用戶名及密碼。
4. 當此網路論壇正式啓用時，您將收到電子郵件告知您網站地址並邀請您至網站註冊進入，您可介紹自己給其他的參與者。在一個月的期間內，您將參與三個主題的討論。您可於您方便的時間來閱讀或發布信息。請注意每一個主題您需發布至少兩次的信息以獲得所提供的禮卷。在第三周末了您可加入您想與其他參與者討論的額外話題，這些話題將於最後一個星期討論。

研究計畫的期限：本研究將爲期六個月。

參與研究的可能狀況

1. 若您參與本研究，有些研究問題可能會使您有不好的感受，然而您有完全的自由不要回答這些問題或直接關掉網路瀏覽器停止繼續參與本研究。
2. 隱私權: 在網路上您的隱私權將儘可能的被保護，只有此研究計畫者和被授權的相關人物能接觸此研究資料(您的答案/發布的信息將被存於 ASC II 檔案) 。在與此研究相關的報告或出版的文章中並不會出現您的個人資料。然而在網路中，會有被外人(如駭客)入侵而使個人資料被辨識出來的可能。

如果您希望討論上述的訊息或其他您擔心的狀況，您可用電子郵件或電話與此研究計畫者連絡。

參與研究的可能利益

本研究對您可能沒有直接的利益，但是當您完成本研究時您可能會增加對您自己在授權灌能和參與決策上的理解。

參與研究的花費

參與本研究時您不需付出任何金錢

參與研究的所得

參與本研究時，每當您完成一份問卷您將獲得100元的禮卷，若您完成網路論壇時將獲得300元的禮卷。

參與研究可能的傷害

此研究並不會造成您身體上的任何傷害

如果您突然不想參與此研究時，您是否有選擇?

您的參與將是完全自願的，您有權拒絕參與，即使您不參加也不會對您造成任何損失，也不會影響您目前或未來與美國德州奧斯汀大學的關係。

您如何能撤銷您的參與呢? 如果您有問題時該和誰聯絡呢?

如果您有任何問題請與劉怡聯絡，電話：(512)560-9477，電子郵件信箱 gn94yliu@mail.utexas.edu或寄信到 1700 Red River St. Austin, TX, 78701, USA. 如果您想終止您的參與，您可隨時停止而不會影響您的權益。在整個的研究過程中您將會被提供一些

新的資訊進而影響您參加此研究的決定。若您對身爲一個研究參與者的權益有問題，您可接洽美國德州奧斯汀大學人權審核委員會主席Lisa Leiden博士 (512)471-8871.

您的隱私權將如何被保護?

除了美國德州奧斯汀大學人權審核委員會和本研究論文指導教授有權利閱讀您的研究資料外，您的資料資料將不會外洩並且您的隱私權將受到法律的保障。將來此研究結果有可能讓另一位研究者來做進一步研究用，但無人能辨識您的個人資料。

即使將來此研究的結果會發佈在期刊或研究會議中，無人能辨識您的個人資料。

本研究計畫者經由您的參與可獲得的利益? 無

您已被告知此研究計畫的目的、過程及可能的利益或危險。請列印出此網頁的信息並可保留此資料做紀錄。如您有任何問題請與劉怡聯絡(512)560-9477或gn94yliu@mail.utexas.edu 在您同意之前您可提出任何您不清楚的問題要求回答，您有完全的自主權決定是否參與此研究。

☐ 是的，我同意參與此研究
☐ 不是的，我不同意參與此研究

Appendix 5

Psychological Empowerment Instrument (PEI)

List below are a number of self-orientations that people may have with regard to their work role.
Using the following scale, please indicate the extent to which you agree or disagree that each one describes your self orientation.

1= Very strongly disagree 2= Strongly disagree 3= Disagree
4= Neutral
5= Agree 6= Strongly agree 7= Very strongly agree

Meaning

The work I do is very important to me.
The work I do is meaningful to me.

Competence

I am confident about my ability to do my job.
I have mastered the skills necessary for my job.

Self-Determination

I have significant autonomy in determining how I do my job.
I can decide on my own how to go about doing my work.
I have considerable opportunity for independence and freedom in how I do my job.

Impact

My impact on what happens in my department is large.
I have a great deal of control over what happens in my department.

Appendix 6

Chinese Version of PEI

下列有些人們對於工作角色的陳述，請用下列量表中的一個數字來代表您同意的程度。

1= 非常強烈不同意　　2= 強烈不同意　　3= 不同意
4= 中立
5= 同意　　6= 強烈同意　　7= 非常強烈同意

影響

在部門中我能顯著地影響部門(單位)內的事情
我有相當大的控制力去掌控部門(單位)裏所發生的事情

能力

關於我工作上的能力我自己是有把握的
我非常精通工作上所必須具備的技術

工作意義

對我個人來說我所做的工作非常重要
對我而言我所做的工作很有意義

自我決策

我有相當大的自主性去決定該如何去做我的工作
我可以自己決定如何去進行我的工作
我擁有相當獨立和自由的機會去思考如何執行我的工作

Appendix 7

Nursing Work Empowerment Scale

CONDITIONS OF WORK EFFECTIVENESS QUESTIONNAIRE – II (User Guide)

The following 4 scales refer to Kanter's 4 empowerment structures: access to opportunity, information, support and resources.

HOW MUCH OF EACH KIND OF OPPORTUNITY DO YOU HAVE IN YOUR PRESENT JOB?

	None		Some		A lot
1. Challenging work	1	2	3	4	5
2. The chance to gain new skills and knowledge on the job.	1	2	3	4	5
3. Tasks that use all of your own skills and knowledge.	1	2	3	4	5

HOW MUCH ACCESS TO INFORMATION DO YOU HAVE IN YOUR PRESENT JOB?

	None		Some		A lot
1. The current state of the hospital.	1	2	3	4	5
2. The values of top management.	1	2	3	4	5
3. The goals of top management.	1	2	3	4	5

HOW MUCH ACCESS TO SUPPORT DO YOU HAVE IN YOUR PRESENT JOB?

	None		Some		A lot
1. Specific information about things you do well.	1	2	3	4	5
2. Specific comments about things you could improve.	1	2	3	4	5
3. Helpful hints or problem solving advice.	1	2	3	4	5

HOW MUCH ACCESS TO RESOURCES DO YOU HAVE IN YOUR PRESENT JOB?

	None		Some		A lot
1. Time available to do necessary paperwork.	1	2	3	4	5
2. Time available to accomplish job requirements.	1	2	3	4	5
3. Acquiring temporary help when needed.	1	2	3	4	5

The following 2 subscales are measures of Kanters formal (Job Activities Scale or JAS) and informal power (Organizational Relationships Scale or ORS).

IN MY WORK SETTING/JOB:

	None				A lot
1. the rewards for innovation on the job are	1	2	3	4	5
2. the amount of flexibility in my job is	1	2	3	4	5
3. the amount of visibility of my work-related activities within the institution is	1	2	3	4	5

HOW MUCH OPPORTUNITY DO YOU HAVE FOR THESE ACTIVITIES IN YOUR PRESENT JOB?

	None				A lot
1. Collaborating on patient care with physicians.	1	2	3	4	5
2. Being sought out by peers for help with problems	1	2	3	4	5
3. Being sought out by managers for help with problems	1	2	3	4	5
4. Seeking out ideas from professionals other than physicians, e.g., Physiotherapists, Occupational Therapists, Dieticians.	1	2	3	4	5

The 2-item global empowerment subscale listed below is used only for construct validation and is not included in the total empowerment score.

	Strongly Disagree				Strongly Agree
1. Overall, my current work environment empowers me to accomplish my work in an effective manner.	1	2	3	4	5
2. Overall, I consider my workplace to be an empowering environment.	1	2	3	4	5

Appendix 8

Chinese Version of NWES

工作效能條件問卷

A.機會：請就下列各題，依您在目前工作單位或組織中，每種機會獲得多少？圈選最代表您意見的程度。

	沒有	少許	有	很多	非常多
1.挑戰性的工作機會	1	2	3	4	5
2.獲得工作新知與技能的機會	1	2	3	4	5
3.有學以致用的機會	1	2	3	4	5

B.資訊：在您目前工作單位或組織中獲得資訊的多少，圈選最代表您意見的程度。

	沒有	少許	有	很多	非常多
1.醫院的現況 (eg,醫院的營運、管理)	1	2	3	4	5
2.最高管理階層的價值觀(eg, 管理的重點)	1	2	3	4	5
3.最高管理階層的目標(eg, 經營的方向)	1	2	3	4	5

C.支持：您目前工作單位或組織中獲得支持的程度，圈選最代表您意見的程度。

	沒有	少許	有	很多	非常多
1.會提供相關資訊使您能將工作做好	1	2	3	4	5
2.會提供您相關的建議，以做爲工作改進的參考	1	2	3	4	5
3.工作有問題時，會提供您有幫助的提示或解決問題的忠告	1	2	3	4	5

D.資源：在您目前工作單位或組織中獲得資源的多少，圈選最代表您意見的程度。

	沒有	少許	有	很多	非常多
1.有足夠的時間去完成必要性的文書工作	1	2	3	4	5
2.有足夠的時間完成工作的要求	1	2	3	4	5
3.當需要時，能獲得暫時立即性的協助	1	2	3	4	5

E.工作評估：在您目前工作單位或組織中之工作評估，圈選最代表您意見的程度。

	沒有	少許	有	很多	非常多
1.因工作有創意而獲得獎勵	1	2	3	4	5
2.我的工作是具有彈性的(eg, 時間、工作內容)	1	2	3	4	5
3. 在醫院我所做的一切與工作有關的活動能被上面的人看見的程度	1	2	3	4	5

F.組織關係：在您目前工作單位或組織中獲得以下活動的機會有多少，圈選最代表您意見的程度。

	沒有	少許	有	很多	非常多
1.與醫師共同照護病人時，能提供意見的程度	1	2	3	4	5
2.當同仁有問題時，就會找您幫忙	1	2	3	4	5
3. 當主管有問題時，就會找您幫忙	1	2	3	4	5
4. 能尋求醫生以外的其他專業人員之意見，例如：物理治療師、職能治療師、營養師	1	2	3	4	5

G.整體授能

	沒有	少許	有	很多	非常多
1.整體而言，我現在的工作環境授能給我，使能有效地完成工作	1	2	3	4	5
2.整體而言，我認爲目前的工作場所是一個授能的環境	1	2	3	4	5

Appendix 9

Decisional Involvement Scale

For the following questions, please circle one number in Section A and one in Section B. In Section A, circle the number that best reflects the group that usually has the authority to make decisions or carry out the activity described. In Section B, circle the number that best reflects the group that you believe should have the authority to make decisions or carry out the activity described. Use the following scale to respond to questions:
5 = Staff nurses only
4 = Primarily staff nurses - some administration/management
3 = Equally shared by administration/management and staff nurses
2 = Primarily administration/management - some staff nurse input
1 = Administration/management only

	A. Group that makes decisions					B. Group that you believe should make decisions				
1. Scheduling	1	2	3	4	5	1	2	3	4	5
2. Unit coverage	1	2	3	4	5	1	2	3	4	5
3. Development of practice standards	1	2	3	4	5	1	2	3	4	5
4. Definition of scope of practice	1	2	3	4	5	1	2	3	4	5
5. Monitoring of RN practice standards	1	2	3	4	5	1	2	3	4	5
6. Evaluation of staff nurses practice	1	2	3	4	5	1	2	3	4	5
7. Recruitment of RNs to practice on the unit	1	2	3	4	5	1	2	3	4	5
8. Interview of RNs for hire on the unit	1	2	3	4	5	1	2	3	4	5
9. Selection of RNs for hire on the unit	1	2	3	4	5	1	2	3	4	5
10. Recommendation of disciplinary action for RNs	1	2	3	4	5	1	2	3	4	5
11. Selection of unit leader (e.g., head nurse)	1	2	3	4	5	1	2	3	4	5
12. Review of unit leader's performance	1	2	3	4	5	1	2	3	4	5
13. Recommendation for promotion of staff RNs	1	2	3	4	5	1	2	3	4	5
14. Determination of unit budgetary needs	1	2	3	4	5	1	2	3	4	5
15. Determination of equipment/supply needs	1	2	3	4	5	1	2	3	4	5
16. Liaison with other departments re: patient care	1	2	3	4	5	1	2	3	4	5
17. Relations with physicians re: patient care	1	2	3	4	5	1	2	3	4	5
18. Conflict resolution among RN staff on unit	1	2	3	4	5	1	2	3	4	5

Appendix 10

Chinese version of DIS

決策參與量表

請針對下列的問題於A區和B區中各圈選一個號碼。在A區中請圈選個號碼最能代表實際上有權力對所描述的活動做決定或執行的群體，在B區中請圈選個號碼最能代表你相信有權力來做決定或執行的群體。請用下列評分表來回答問題。

5=只有護士
4=主要是護士一 有些是 行政/主管人員
3=行政/主管人員和護士平等分擔
2=主要是行政/主管人員一 有些是護士
1=只有行政/主管人員

	A 實際做決定的群體					B您相信應該做決定的群體				
1. 排班	1	2	3	4	5	1	2	3	4	5
2. 單位護理人力	1	2	3	4	5	1	2	3	4	5
3. 工作執行標準的發展	1	2	3	4	5	1	2	3	4	5
4. 工作執行範疇的定義	1	2	3	4	5	1	2	3	4	5
5. 護理人員工作標準的監測	1	2	3	4	5	1	2	3	4	5
6. 護理人員工作執行的評值	1	2	3	4	5	1	2	3	4	5
7. 單位工作護理人員的招募	1	2	3	4	5	1	2	3	4	5
8. 單位應聘護理人員的面試	1	2	3	4	5	1	2	3	4	5
9. 單位應聘護理人員的挑選	1	2	3	4	5	1	2	3	4	5
10. 對護理人員處分的建議	1	2	3	4	5	1	2	3	4	5
11. 單位主管(如護理長)的選拔	1	2	3	4	5	1	2	3	4	5
12. 單位主管表現的審視	1	2	3	4	5	1	2	3	4	5
13. 對護理人員升遷的推薦	1	2	3	4	5	1	2	3	4	5
14. 對單位預算需求的決定	1	2	3	4	5	1	2	3	4	5
15. 對器材/衛材需求的決定	1	2	3	4	5	1	2	3	4	5
16. 與其他部門的聯絡 (關於病患照顧方面)	1	2	3	4	5	1	2	3	4	5
17. 與醫生的合作關係 (關於病患照顧方面)	1	2	3	4	5	1	2	3	4	5
18. 單位護理人員之間衝突的解決	1	2	3	4	5	1	2	3	4	5

Appendix 11

Discussion Topics and Questions for Online Forums

Introduction

Please introduce yourself.

1. How long have you been working as a nurse?
2. What is your clinical specialty?
3. What area is your hospital? (northern, middle or southern Taiwan)
4. What kind of hospital are you currently working in? (teaching, regional or local hospital)
5. What do you think about being a nurse in Taiwan? Or what does "being a nurse" mean to you?
6. What is your typical work schedule? Or what is your typical workday?

Three Topics and Questions

Topic 1. Work Environment

1. In your current working environment, what areas do you think need to be improved? Why? How do you think these areas might influence your work?
2. As a nurse, have you ever had any experience of oppression at work (please describe your experience)? Or what oppressions do you think nurses are facing today?
3. Do you think nurses are valued or respected in your hospital? Why?
4. What changes do you wish to see in nursing or in your hospital?

Topic 2. Gender, Culture and Power

1. If you had a son, would you recommend him to be a nurse? If you had a daughter, would you recommend her to be a nurse?
2. What do you think about the status of nursing and medicine in your hospital? What differences do you observe?
3. Have you ever had a time that something you thought very important and you would be able to make a change? Please describe your experience.
4. What do you feel when you really want something done but you cannot?
5. If you encounter an unfair situation, what would you do? Speak up for yourself or bear it and keep quiet?
6. Have you ever had struggle between nurses' ethic (devotion) and your own right (taking care of yourself)?

Topic 3. Participation in Decision Making

1. Would you please describe the decision making procedure in your hospital?
2. Have you ever been involved in the decision making process in your hospital? If you do, please describe in what ways you were involved in the process.
3. What kinds of decision making do you wish your unit managers to consider most for nurses? Do you think unit managers should invite nurses to participate in unit-related decision making? When you express your opinions to unit managers, what are their attitudes (e.g., do they accept, value, ignore them …etc.)?
4. If you really want something to be changed, how do you communicate it with others?

Wrap-up questions

1. What other kinds of things do you have to deal with besides working?
2. What do you think about this online forum? What is your experience of this online forum?
3. What are other topics that you wish to discuss?
4. Do you have any suggestion on how we can make this online forum better?

Appendix 12

The Chinese Version of Online Forum Discussion Topics

網路論壇討論主題

開場

請先自我介紹:

1. 您已當護士多久了?
2. 您的專科領域爲何?
3. 您的醫院類型爲何?
4. 您對於在台灣當護士有何看法?或您覺得“作爲一個護士”對您個人而言代表什麼意義呢?
5. 您可否描述您通常的工作時間表或簡單描述您一天的工作情形通常爲何?

三個討論主題

主題1. 工作環境

1. 在你現在的護理工作環境，你覺得哪些地方需要改善？爲什麼？你覺得現今這幾個地方，如何影響了你的護理工作？
2. 作爲一個護理人員，你曾有過在工作上被壓榨的經驗嗎 (請描述你的經驗) ？或你覺得護理人員現在面對哪些工作上的壓榨？
3. 你覺得在你工作的醫院中，護理人員有獲得應當的重視或尊重嗎？爲什麼？
4. 你希望看到你工作的醫院或護理界有哪些改變呢？

主題2. 性別、文化及權力

1. 如果你有一個兒子，你會願意讓他當一個護士嗎? 若你有個女兒，你會願意讓他當個護士嗎?
2. 你覺得在你工作的醫院中，護理人員和醫生的地位如何?有哪些差別呢?
3. 你曾經有過這樣的經驗--當你覺得有件事非常重要，你必須要做些改變(eg, 幫病患爭取權益)，而你也確實做到了。可否請描述這樣的經驗。
4. 當你處在一個你覺得不公平的工作環境中，通常你的如何面對或處理呢?是會選擇挺身而出爲自己說話，還是默默承受?
5. 你曾經很掙扎過嗎—很想對自己好點，讓自己少做點，但又覺得做爲護理人員應該要將病人的需要要擺在前面(犧牲奉獻)?

主題3.　參與決策

1. 可否請你描述一下你工作的醫院(單位)作決策的方式爲何?
2. 你曾被納入在醫院(單位)的決策參與中嗎?如果有，你通常參與哪一部分的決策呢?
3. 你希望單位護理長在哪些決策上應多爲護理人員著想? 你覺得護理長在做與單位相關的決策時應邀請護理人員一起參與嗎? 當你提供意見給單位主管時他們的態度爲何(e.g.接納、重視、冷漠、不理會…等等) ?
4. 如果你真的希望工作單位做些改變，你會如何跟同事或主管溝通呢?

綜合問題

1. 除了面對工作上的壓力您還需面對哪些生活上的困難或壓力呢?
2. 對於這個網路論壇您有何看法呢?您的感受如何?
3. 還有哪些主題您覺得應該加入來討論呢?
4. 爲了使我們能讓此論壇更好，您有哪些建議?

References

Ahern, N. R. (2005). Using the internet to conduct research. *Nurse Researcher, 13*, 55-70.

Alexander, V. D., & Thoits, P. A. (1985). Token achievement: An examination of proportional representation and performance outcomes. *Social Forces, 64*, 322-340.

Allen, D. G. (1996). Knowledge, politics, culture, and gender: A discourse perspective. *Canadian Journal of Nursing Research, 28*, 95-102.

Alutto, J. A., & Vredenburgh, D. J. (1977). Characteristics of decisional participation by nurses. *Academy of Management Journal, 20*, 341-347.

Anderson, R. A., Corazzini, K. M., & McDaniel, R. R. (2004). Complexity science and the dynamics of climate and communication: Reducing nursing home turnover. *The Gerontologist, 44*(3), 378-388.

Anderson, R. A., & McDaniel, R. R. (1999). RN participation in organizational decision making and improvements in resident outcomes. *Health Care Management Review, 24*, 7-16.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality & Social Psychology, 51*, 1173-1182.

Bennett, J. A. (2000). Mediator and moderator variables in nursing research: Conceptual and statistical differences. *Research in Nursing & Health, 23*, 415-420.

Biley, A., & Whale, Z. (1996). Feminist approaches to change and nursing development. *Journal of Clinical Nursing, 5*(3), 159-163.

Blegen, M. A., Goode, C., Johnson, M., Maas, M., Chen, L., & Moorhead, S. (1993). Preferences for decision-making autonomy. *Image: Journal of Nursing Scholarship, 25*, 339-344.

Bowles, C., & Candela, L. (2005). First job experiences of recent RN graduates. *Journal of Nursing Administration, 35*, 130-137.

Braithwaite, D., Emery, J., Lusignan, S., & Sutton, S. (2003). Using the Internet to conduct surveys of health professionals: a valid alternative? *Family Practice, 20*, 545-551.

Brennan, D. (2005). The social construction of 'woman's work': Nursing labour and status. *Journal of Nursing Management, 13*, 282-285.

Bureau of Education in Republic of China. (ND). *Thrice Following*. Retrieved Feb, 29, 2008, from http://140.111.34.46/chengyu/pho/fya/fya00973.htm

Campbell, R., & Wasco, S. (2000). Feminist approaches to social science: Epistemological and methodological tenets. *American Journal of Community Psychology, 28*, 773-791.

Campbell, S. L., Fowles, E. R., & Weber, B. J. (2004). Organizational structure and job satisfaction in public health nursing. *Public Health Nursing, 21*, 564-571.

Chandler, G. E. (1987). *The relationship of nursing work environment to empowerment and powerlessness.* Unpublished doctoral dissertation, University of Utah, Utah.

Chandler, G. E. (1991). Creating an environment to empower nurses. *Nursing Management, 22*(8), 20-23.

Chang, H. C. (1999a). The 'well-defined' is 'ambiguous'- indeterminacy in Chinese conversation. *Journal of Pragmatics, 31*, 535-556.

Chang, H. C., & Holt, G. R. (1991). More than relationship: Chinese interaction and the principle of kuan-hsi. *Communication Quarterly, 39*, 251-271.

Chang, W. L. (1999b). *Nightingale and nursing*. Taipei: Campus Evangelical Fellowship.

Chang, Y. P., & Hsu, L. N. (2000). A study of the job satisfaction of clinical nurses in a teaching hospital. *Journal of Chung Gung Nursing, 11*(2), 63-74.

Chen, F. L. (2003a). Gender, labor and health. *Lian Xin Ping Dun Giou Yu Gi Kang, 22*, 66-72.

Chen, G. M. (2002). The impact of harmony on Chinese conflict management. In G. M. Chen & R. Ma (Eds.), *Chinese conflict management and resolution* (pp. 3-17). Westport: Ablex.

Chen, G. M., & Chung, J. (1994). The impact of Confucianism on organizational communication. *Communication Quarterly, 41*, 93-105.

Chen, J. F. (2003b). *The relationship of psychological empowerment, trust and social loafing.* Unpublished Thesis, Chinese Culture University, Taipei.

Chen, Y. C., & Lin, L. H. (2002). Relationships between empowerment and organizational commitment of nurses. *Tzu Chi Nursing Journal, 1*(4), 53-64.

Chiles, A. M., & Zorn, T. E. (1995). Empowerment in organizations: Employees' perceptions of the influences on empowerment. *Journal of Applied Communication Research, 23*, 1-25.

Chinn, P. (1995). Feminism and nursing. *Annual Review of Nursing Research, 13*, 267-289.

Chinn, P. L. (1999). Gender and nursing science. In E. C. Polifroni & M. Welch (Eds.), *Perspectives on philosophy of science in nursing*. Philadelphia: Lippincott.

Chinn, P. L., & Wheeler, C. E. (1985). Feminism and nursing. *Nursing Outlook, 33*(2), 74-77.

Chou, Y., R. (1999). The influence of global budget on medicine. *Journal of Taiwan Medicine, 42*(9), 38-39.

Colon-Emeric, C. S., Ammarell, N., Bailey, D., Corazzini, K., Lekan-Rutledge, D., Piven, M. L., et al. (2006). Patterns of medical and nursing staff communication in nursing homes: Implications and insights from complexity science. *Qualitative Health Research, 16*, 173-188.

Cook, C., Health, F., & Thompson, R. L. (2000). A meta-analysis of response rates in web- or internet-based surveys. *Educational and Psychological Measurement, 60*, 821-836.

Coombs, M. (2003). Power and conflict in intensive care clinical decision making. *Intensive and Critical Care Nursing, 19*, 125-135.

Courtney, K. L., & Craven, C. K. (2005). Factors to weigh when considering electronic data collection. *Canadian Journal of Nursing Research, 37*, 150-159.

Creswell, J. W. (2003). *Research design: qualitative, quantitative and mixed method approaches* (2nd ed.). Thousand Oaks: SAGE Publications.

Crotty, M. (2003). *The foundations of social research*. Thousand Oaks: SAGE Publications Inc.

Daiski, I. (2004). Changing nurses' dis-empowering relationship patterns. *Journal of Advanced Nursing, 48*, 43-50.

DeMarco, R., Campbell, D., & Wuest, J. (1993). Feminist critique: Searching for meaning in research. *Advances in Nursing Science, 16*(2), 26-38.

Denton, M., & Zeytinoglu, I. U. (1993). Perceived participation in decision-making in a university setting: The impact of gender. *Industrial and Labor Relations Review, 46*, 320-331.

Dillman, D. (2000). *Mail and Internet survey: The total design method* (2nd ed.). New York: Wiley.

Dimitriades, Z. S. (2005). Employee empowerment in the Greek context. *International Journal of Manpower, 26*, 80-92.

Dombeck, M.-T. (2003). Work narratives: Gender and race in professional personhood. *Research in Nursing & Health, 26*, 351-365.

Duffy, M. E. (2002). Methodological issues in web-based research. *Journal of Nursing Scholarship, 34*, 83-88.

Ellefsen, B., & Hamilton, G. (2000). Empowered nurses? Nurses in Norway and the USA compared. *International Nursing Review, 47*, 106-120.

Ellis-Stoll, C., & Popkess-Vawter, S. (1998). A concept analysis on the process of empowerment. *Advances in Nursing Science, 21*, 62-68.

England, P., Budig, M., & Folbre, N. (2002). Wages of virtue: The relative pay of care work. *Social Problems, 49*, 455-473.

Fawcett, J., & Buhle, E. L. (1995). Using the internet for data collection: An innovative electronic strategy. *Computers in Nursing, 13*, 273-279.

Finegan, J., & Laschinger, H. K. S. (2001). The antecedents and consquences of empowerment. *Journal of Nursing Administration, 31*, 489-497.

Forbes, D. A., King, K. M., Kushner, K. E., Letourneau, N. L., Myrick, A. F., & Profetto-McGrath, J. (1999). Warrantable evidence in nursing science. *Journal of Advanced Nursing, 29*, 373-379.

Foster-Fishman, P. G., & Salem, D. A. (1998). Empirical support for the critical assumptions of empowerment theory. *American Journal of Community Psychology, 26*, 507.

Fu, D. W. (2005). *Assembling the new body: Gender/sexuality, medicine, and modern Taiwan*. Taipei, Taiwan: Socio Publishing.

Gao, G. (1998). "Don't take my word for it." Understanding Chinese speaking practices. *International Journal of Intercultural Relations, 22*, 163-186.

Gary, F., Sigsby, L. M., & Campbell, D. (1998). Feminism: A perspective for the 21st century. *Issues in Mental Health Nursing, 19*, 139-152.

Gibson, C. (1991). A concept analysis of empowerment. *Journal of Advanced Nursing, 16*, 354-361.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. London: Harvard University Press.

Ginzberg, R. (1999). Uncovering gynocentric science. In E. C. Polifroni & M. Welch (Eds.), *Perspectives on philosophy of science in nursing*. Philadelphia: Lippincott.

Gosling, S. D., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist, 59*, 93-104.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*, 255-274.

Hagell, E. (1989). Nursing knowledge: Women's knowledge. *Journal of Advanced Nursing, 14*, 226-233.

Hall, J. M., & Stevens, P. E. (1991). Rigor in feminist research. *Advances in Nursing Science, 13*(1), 16-29.

Hancer, M., & George, R. T. (2003). Psychological empowerment of non-supervisory employees working in full-service restaurants. *Hospitality Management, 22*, 3-16.

Harrison, T. M. (1985). Communication and participative decision making: an exploratory study. *Personnel Psychology, 38*, 93-116.

Havens, D. S., & Vasey, J. (2005). The staff nurse decisional involvement scale. *Nursing Research, 54*, 376-383.

Hawks, J. (1991). Power: A concept analysis. *Journal of Advanced Nursing, 16*, 754-762.

Health Insurance Portability and Accountability Act. (2007). *HIPAA privacy rule: Information for researchers*. Retrieved April 30, 2007, from http://privacyruleandresearch.nih.gov/pr_08.asp

Hechanova, M. R. M., Alampay, R. B. A., & Franco, E. P. (2006). Psychological empowerment, job satisfaction and performance among Filipino service workers. *Asian Journal of Social Psychology, 9*, 72-78.

Hofstede, G. (2001). *Culture's consequence: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). London: SAGE.

Hong, F. (1997). *Footbinding, feminism and freedom: The liberation of women's bodies in modern China*. Portland, OR: Frank Cass.

Hsu, T. K. (2004). Ren-ton-wei-chi-yu-yin-yon-masculinity. *Fu Yen Tzon Hen, 72*, 72-79.

Huang, K. G. (1988). *The Chinese games of power*. Taipei, Taiwan: Guei Guan.

Huang, S., Lin, L. M., Hsu, L. N., Chen, M. S., & Huang, J. C. (2003). A comparison of work empowerment perception and expectation of operating room nurses. *New Taipei Nursing Journal, 5*, 83-91.

Huang, T.-C. (2005). The ethic dilemma of nursing profession during SARS period. *Newsletter for Research of Applied Ethics, 34*, 15-25.

Huang, X., Shi, K., Zhang, Z., & Cheung, Y. L. (2006). The impact of participative leadership behavior on psychological empowerment and organizational commitment in Chinese state-owned enterprises: The moderating role of organizaitonal culture. *Asia Pacific Journal of Management, 23*, 345-367.

Hughes, C. (2002). *Key concepts in feminist theory and research*. London: SAGE Publications.

Hung, D. Y., Rundall, T. G., Cohen, D. J., Tallia, A. F., & Crabtree, B. F. (2006). Productivity and turnover in PCPs: The role of saff participation in decision-making. *Medical Care, 44*, 946-951.

Ibarra, H. (2004). Men and women of the corporation and the change masters: Practical theories for changing times. *Academy of Management Executive, 18*, 108-111.

Im, E.-O., & Chee, W. (2001). A feminist critique of research on cancer pain. *Western Journal of Nursing Research, 23*, 726-752.

Im, E.-O., & Chee, W. (2004a). Issues in an Internet survey among midlife Asian women. *Health Care for Women International, 25*, 150-164.

Im, E.-O., & Chee, W. (2004b). Issues in internet survey research among cancer patients. *Cancer Nursing, 27*, 34-42.

Im, E.-O., & Chee, W. (2004c). Recruitment of research participants through the internet. *Computers, Informatics, Nursing, 22*, 289-297.

Im, E.-O., Chee, W., Bender, M., Cheng, C.-Y., Tsai, H.-M., Kang, N. M., et al. (2005). The psychometric properties of pen-and-pencil and internet versions of the midlife women's symptom index (MSI). *International Journal of Nursing Studies, 42*, 167-177.

Institute of Medicine. (2004). *Keeping patients safe: Transforming the work environment of nurses*. Washinton, DC: The National Academies Press.

Jackson, B. (1997a). *Splendid slippers: A thousand years of an erotic tradition*. Berkeley, CA: Ten Speed Press.

Jackson, D. (1997b). Feminism: A path to clinical knowledge development. *Contemporary Nurse, 6*, 85-91.

Jia, W. S., Lu, X., & Heisey, D. R. (2002). *Chinese communication theory and research: Reflection, new frontiers, and new directions*. Westport: Ablex Publishing.

Jiang, W. W., Chen, W., & Chen, Y.-C. (2004). Important computer competencies for the nursing profession. *Journal of Nursing Research, 12*, 213-225.

Kahnweiler, W. M., & Thompson, M. A. (2000). Levels of desired, actual, and perceived control of employee involvement in decision making: An empirical investigation. *Journal of Business and Psychology, 14*, 407-427.

Kanter, R. M. (1975). Women and the structure of organizations: Explorations in theory and behavior. In M. Millman & R. M. Kanter (Eds.), *Another voice*. New York: Anchor Books.

Kanter, R. M. (1977). *Men and women of the corporation*. New York: Basic Books.

Kanter, R. M. (1993). *Men and women of the corporation* (2nd ed.). New York: Basic Books.

Kenny, A. J. (2005). Interaction in cyberspace: An online focus group. *Journal of Advanced Nursing, 49*, 414-422.

Kiesler, S., & Sproull, L. S. (1986). Response effects in the electronic survey. *Public Opinion Quarterly, 50*, 402-413.

Koch, T. (1994). Establishing rigour in qualitative research: The decision trail. *Journal of Advanced Nursing, 19*, 976-986.

Krueger. (1994). *Focus group: A practical guide for applied research* (2nd ed.). Thousand Oaks: SAGE.

Ku, Y. L. (Ed.). (2000). *Feminism theory*. Taipei, Taiwan: fembooks.

Lakeman, R. R. (1997). Using the internet for data collection in nursing research. *Computers in Nursing, 15*, 269-275.

Lan, S. J. (1997). The white coat angels' working right and human right. *Hope, 18*, 23-28.

Larrabee, J. H., Janney, M. A., Ostrow, C. L., Withrow, M. L., Hobbs, G. R., & Burant, C. (2003). Predicting registered nurse job satisfaction and intent to leave. *Journal of Nursing Administration, 33*, 271-283.

Laschinger, H., & Havens, D. S. (1996). Staff nurse work empowerment and perceived control over nursing practice: Conditions for work effectiveness. *Journal of Nursing Administration, 26*, 27-35.

Laschinger, H., & Sabiston, J. A. (2000). Staff nurse empowerment and workplace behaviours. *Canadian Nurse, 96*, 18-22.

Laschinger, H., & Shamian, J. (1994). Staff nurses' and nurse managers' perceptions of job-related empowerment and managerial self-efficacy. *Journal of Nursing Administration, 24*, 38-47.

Laschinger, H. K. (1996a). Measuring empowerment from Kanter's (1977, 1993) theoretical perspective. *Journal of Shared Governance, 2*(4), 23-26.

Laschinger, H. K. (1996b). A theoretical approach to studying work empowerment in nursing: A review of studies testing Kanter's theory of structural power in organizations. *Nursing Administration Quarterly, 20*, 25-41.

Laschinger, H. K., Finegan, J., & Shamian, J. (2001a). Promoting nurses' health: Effect of empowerment on job strain and work satisfaction. *Nusing Economics, 19*, 42-52.

Laschinger, H. K., Finegan, J., Shamian, J., & Wilk, P. (2001b). Impact of structural and psychological empowerment on job strain in nursing work settings: Expanding Kanter's model. *The Journal of Nursing Administration., 31*, 260-272.

Laschinger, H. K., Finegan, J., Shamian, J., & Wilk, P. (2003). Workplace empowerment as a predictor of nurse burnout in restructured healthcare settings. *Hospital Quarterly, 6*(4), 2-11.

Laschinger, H. K., Sabiston, J. A., & Kutszcher, L. (1997). Empowerment and staff nurse decision involvement in nursing work environments: testing Kanter's theory of structural power in organizations. *Research in Nursing & Health, 20*, 341-352.

Laschinger, H. K., Wong, C., McMahon, L., & Kaufmann, C. (1999). Leader behavior impact on staff nurse empowerment, job tension, and work effectiveness. *Journal of Nursing Administration, 29*(5), 28-39.

Laschinger, H. K. S., Finegan, J., & Shamian, J. (2001c). The impact of workplace empowerment, organizational trust on staff nurses' work satisfaction and organizational commitment. *Health Care Management Review, 26*(3), 7-23.

Leana, C. R. (1987). Power relinquishment versus power sharing: Theoretical clarification and empirical comparison of delegation and participation. *Journal of Applied Psychology, 72*, 228-233.

Lee, H. (2002). *How to prevent the downhill of health care quality*. Retrieved Nov, 20, 2005, from http://www.npf.org.tw/PUBLICATION/SS/091/SS-B-091-020.htm

Lee, H., & Chang, T. (2002). Liang-hsing-gong-tsou-ping-dong-fa-dou-hu-li-juan-ye-tsan-shen-tsu-ying-hsiung. *kuao Jeng Luang Tan, 2*, 184-185.

Lee, T. T., Yeh, C.-H., & Ho, L.-H. (2002). Application of a computerized nursing care plan system in one hospital: Experiences of ICU nurses in Taiwan. *Journal of Advanced Nursing, 39*, 61-67.

Leece, P., Bhandari, M., Sprague, S., Swiontkowski, M. F., Schemitsch, E. H., Tornetta, P., et al. (2004). Internet versus mailed questionniares: A randomized comparison (2). *Journal of Medical Internet Research, 6*(3), e30.

Letvak, S. (2001). Nurses as working women. *The Association of PeriOperative Registered Nurses Journal, 73*, 675-682.

Leu, H. L. (1990). *New feminism*. Taipei, Taiwan: Frontier.

Leung, D. Y. P., & Kember, D. (2005). Comparability of data gathered from evaluation questionnaires on paper and through the internet. *Research in Higher Education, 46*, 571-590.

Li, M. L. (2006). A historical study of the international women's movement and feminism and their revelation. *Journal of Yunnan Normal University, 38*(4), 50-55.

Li, S. C., & Chi, X. R. (2004). Upward influence strategies in organizations: Examining the differences between western and Chinese upward influence model. *Research of Journalism, 80*, 89-126.

Lin, C.-H. (1999). World Wide Web and nursing education. *Leadership Nursing, 3*(2), 62-66.

Lin, Y. G., & Pan, T. M. (2004). The impact of government reorganization on nursing profession. *The Journal of the National Union of Nurses' Associations, 47*, 2-3.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications.

Littlewood, B. (2004). *Feminist perspectives on sociology*. Harlow, England: Pearson Education Limited.

Liu, C. H., Chang, L. C., Li, I. C., & Liao, J. Y. (2006). The impact of organizational and psychological empowerment on organizational commitment and job satisfaction among primary health professional. *Evidence-based Nursing, 2*, 5-13.

Liu, C. T. (1998). *Female medical sociology*. Taipei: Fembooks.

Liu, C. T. (2006). The history of nursing development in the republic of China. *Journal of Nursing, 53*(3), 5-20.

Locke, E. A., Schweiger, D. M., & Latham, G. P. (1986). Participation in decision making: When should it be used. *Organizational dynamics, 14*(3), 65-79.

Lu, M. (2004). The current situation and outlook of Taiwan nursing education. *Journal of Nursing, 51*(4), 11-17.

Lu, X. (1998). An interface between individualism and collectivistic orientations in Chinese cultural values and social relations. *The Howard Journal of Communication, 9*, 91-107.

Malterud, K. (1993). Strategies for empowering women's voices in the medical culture. *Health Care for Women International, 14*, 365-373.

Mangold, K. L., Pearson, K. K., Schmitz, J. R., Scherb, C. A., Specht, J. P., & Loes, J. L. (2006). Perceptions and characteristics of registered nurses' involvement in decision making. *Nursing Administration Quarterly, 30*, 266-272.

Mann, C., & Stewart, F. (2000). *Internet communication and qualitative research: A handbook for research online*. London: Sage Publications.

Manojlovich, M., & Laschinger, H. K. S. (2002). The relationship of empowerment and selected personality characteristics to nursing job satisfaction. *Journal of Nursing Administration, 32*, 586-595.

McCormick, K. M., & Bunting, S. M. (2002). Application of feminist theory in nursing research: The case of women and cardiovascular disease. *Health Care for Women International, 23*, 820-834.

McDaniel, R. R., & Driebe, D. J. (2001). Complexity science and health care management. *Advances in Health Care Management, 2*, 11-36.

McDermott, K., Laschinger, H., & Shamian, J. (1996). Work empowerment and organizational commitment. *Nursing Management, 27*(5), 44-48.

McGillis Hall, L., Doran, D., Sidani, S., & Pink, L. (2006). Teaching and community hospital work environments. *Western Journal of Nursing Research, 28*, 710-725.

Meyerson, P., & Tryon, W. W. (2003). Validating internet research: A test of the psychometric equivalence of internet and in-person samples. *Behavioral Research Methods and Instrument Computers, 35*, 614-620.

Miller, K. I., & Monge, P. R. (1986). Participation, satisfaction and productivity: a meta-analytic review. *Academy of Management Journal, 29*, 727-753.

Mok, E., & Au-Yeung, B. (2002). Relationship between organizational climate and empowerment of nurses in Hong Kong. *Journal of Nursing Management, 10*, 129-137.

Moloney, M. F., Dietrich, A. S., Strickland, O. L., & Myerburg, S. (2003). Using internet discussion boards as virtual focus groups. *Advances in Nursing Science, 26*, 274-286.

Munro, B. H. (2001). *Statistical methods for health care research* (4th ed.). Philadelphia: Lippincott Williams & Wilkins.

Ng, R. M. (2000). The influence of Confucianism on Chinese conceptions of power, authority and the rule of law. In D. R. Heisey (Ed.), *Chinese perspectives in rhetoric and communication* (pp. 45-55). Stamford: Ablex Publishing.

Norusis, M. J. (2004). *SPSS 12.0 guide to data analysis*. Upper Saddle River, NJ: Prentice Hall.

Nosek, B. A., Banaji, M. R., & Greewald, A. G. (2002). E-research: Ethics, security, design and control in psychological research on the internet. *Journal of Social Issues, 58*, 166-176.

Ou, C. H. (2004). Knowledge construction and power in the cyberspace and their influence on adult learning. *Journal of the National Institute for Compilation and Translation, 32*(4), 70-81.

Polit, D. F., & Beck, C. T. (2004). *Nursing reearch principles and methods* (7th ed.). Philadelphia: Lippincott Williams & Wilkins.

Porter, S. (1998). *Social theory and nursing practice*. London: Macmillan Press.

Potts, H. W. W., & Wyatt, J. C. (2002). Survey of doctor's experience of patients using the internet. *Journal of Medical Internet Research, 4*(1), e5.

Rafael, A. (1996). Power and caring: A dialectic in nursing. *Advances in Nursing Science, 19*, 3-17.

Reinharz, S. (1992). *Feminist methods in social research*. New York: Oxford University Press.

Richards, L., & Morse, J. M. (2007). *User's guide to qualitative methods* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Ritter, P., Lorig, K., Laurent, D., & Matthews, K. (2004). Internet versus mailed questionnaires: A randomized comparison. *Journal of Medical Internet Research, 6*(3), e29.

Roberts, S. J. (1983). Oppressed group behavior: Implications for nursing. *Advances in Nursing Science, 8*(7), 21-30.

Roberts, S. J. (2000). Development of a positive professional identity: Liberating oneself from the oppressor within. *Advances in Nursing Science, 22*(4), 71-82.

Rodwell, C. (1996). An analysis of the concept of empowerment. *Journal of Advanced Nursing, 23*(2), 305-313.

Rodwell, J. J., Kienzle, R., & Shadur, M. A. (1998). The relationships among work-related perceptions, employee attitudes and employee performance: the integral role of communication. *Human Resource Management, 37*, 277-293.

Rou, T. G., Lai, H. L., Tsai, H. H., & Wang, Y. J. (2003). *Statistics papers and monographs series*. Taipei: Bureau of Statistics.

Sagie, A., & Aycan, Z. (2003). A cross-cultural analysis of participative decision-making in organizations. *Human Relations, 56*, 453-473.

Sandelowski, M. (2000). Combing qualitative and quantitative sampling, data collection, and analysis techniques in mixed-method studies. *Research in Nursing & Health, 23*, 246-255.

Seibert, S. E., Silver, S. R., & Randolph, W. A. (2004). Taking empowerment to the next level: A multiple-level model of empowerment, performance, and satisfaction. *Academy of Management Journal, 47*, 332-349.

Setoyama, M. (2000). *Li-Hsian-Da-Yi-Liao-Kuao-Du* (Y. B. Chen, Trans.). Taipei: Bardon.

Sirota, T. (2007). Nurse/physician relationships improving or not? *Nursing, 37*, 52-55.

Snavely, B. K., & Fairhurst, G. T. (1984). The male nursing student as a token. *Research in Nursing & Health, 7*, 278-294.

Sohier, R. (1992). Feminism and nursing knowledge: the power of the weak. *Nursing Outlook, 40*(2), 62.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal, 38*, 1442-1465.

Spreitzer, G. M. (1996). Social structual characteristics of psychological empowerment., *Academy of Management Journal* (Vol. 39, pp. 483): Academy of Management.

Spreitzer, G. M., Kizilos, M. A., & Nason, S. W. (1997). A dimensional analysis of the relationship between psychological empowerment and effectiveness, satisfaction, and strain. *Journal of Management, 23*(5), 679-704.

Steckler, A., McLeroy, K. R., Goodman, R. M., Bird, S. T., & McCormick, L. (1992). Toward integrating qualitative and quantitative methods: an introduction. *Health Education Quarterly, 19*, 1-8.

Stein, L. (1990). The doctor-nurse game revisited. *The New England Journal of Medicine., 322*, 546-549.

Stevens, P. E. (1996). Focus group: Collecting aggregate-level data to understand community health phenomena. *Public Health Nursing, 13*, 170-176.

Streiner, D. L., & Norman, G. R. (2003). *Health measurement scales* (3rd ed.). New York: Oxford University Press.

Streubert, H. J., & Carpenter, D. R. (1999). *Qualitative research in nursing: Advancing the humanistic imperative* (2nd ed.). Philadelphia, PA: Lippincott.

Strickland, O. L., Moloney, M. F., Dietrich, A. S., Myerburg, S., Cotsonis, G. A., & Johnson, R. V. (2003). Measurement issues related to data collection on the world wide web. *Advances in Nursing Science, 26*, 246-256.

Taiwan Network Information Center. (2002). *Taiwan internet network environment and behavior survey*. Retrieved April, 30, 2005, from http://www..twnic.net/total/net1114.htm

Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: an interpretive model of intrinsic task motivation. *Academy of Management Review, 15*, 666-681.

Throne, S., & Varcoe, C. (1998). The tyranny of feminist methodology in women's health research. *Health Care for Women International, 19*, 481-493.

Tong, R. (2001). Towards a feminist global bioethics: Addressing women's health concerns worldwide. *Health Care Analysis, 9*, 229-246.

Tong, R. P. (1998). *Feminist thought: A more comprehensive introduction* (2nd ed.). Boulder: Westview Press.

Trochim, W. M. K. (2001). *The research methods knowledge base*. Cincinnati: Atomic Dog Publishing.

Tsai, C. Y., Huang, L. C., & Yeh, S. C. (2003). A study on the relationship among organizational commitment, job satisfaction, and organizational citizenship behavior of nursing personnel. *Show-Chwan Medical Journal, 4*(1), 35-45.

Tzeng, Y. L. (2000). Men in nursing: Exploring potential problems underlying gender and occupational roles. *Journal of Nursing [Chinese], 47*, 69-73.

Upenieks, V. V. (2002). What constitutes successful nurse leadership: A qualitative approach utilizing Kanter's theory of organizational behavior. *Journal of Nursing Administration, 32*, 622-632.

Wagner, J. A. (1994). Participation's effect on performance and satisfaction: a reconsideration of research evidence. *Academy of Management Review, 19*, 312-330.

Wang, H., & Lu, M. (1998). A study of nurses' job-related empowerment: a comparison of perception and expectation among nurses [Chinese]. *Nursing Research (China), 6*(1), 19-30.

Weber, B. A., Yarandi, H., Rowe, M. A., & Weber, J. P. (2005). A comparison study: Paper-based versus web-based data collection and management. *Applied Nursing Research, 18*, 182-185.

Webster's Unabridged Online Dictionary. (1996). *Participation*. Retrieved 5 March, 2006, from http://collections.chadwyck.com.content.lib.utexas.edu:2048/mwd/htxview?template=basic.htx&content=frameset.htx

Williams, E. (1976). *Participative management*. Atlanta: Georgia State University.

Wolf, Z. R. (2007). Ethnography: The method. In P. L. Munhall (Ed.), *Nursing Reserach: A qualitative perspective* (4th ed.). Sudbury, MA: Jones and Bartlett Publishers.

Xie, Y., & Shaman, K. A. (2003). *Women in science: Career processes and outcomes*. Cambridge, MA: Harvard University Press.

Yang, H. Y. (2004). *Over 80 percent nurses want to change their career*. Retrieved March, 1, 2005, from http://www.ctitv.com.tw/news/news02.html?sno=56283

Yeh, M. L. (1997). *An exploration of factors influencing Taiwanese nurses' participation in professional organziations.* Unpublished doctoral dissertation, George Masson University, Virginia.

Yu, N. L., Hu, S. T., Chou, P. C., & Lai, R. Y. (1999). Job satisfaction and intention stay of the nurses in a regional hospital. *Jounal of Chung Gung Nursing, 10*(3), 28-38.

Yum, J. O. (1988). The impact of Confucianism on interpersonal relationships and communication patterns in East Asia. *Communication Monographs, 55*, 374-388.

Zimmerman, M. A. (1995). Psychological empowerment: Issues and illustrations. *American Journal of Community Psychology, 23*, 581.

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